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NEW

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SAVE 60%

MEDIUM
LOT 62434
62426

LARGE
LOT 62433
62428

X-LARGE
LOT 62432
62429 shown

YOUR CHOICE!
$3.99
REG. PRICE $9.99

84056694

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SUPER COUPON

RAPID PUMP® 1.5 TON ALUMINUM RACING JACK
PITTSBURGH

- 3-1/2 Pumps Lifts Most Vehicles
- Weighs 32 lbs.

SAVE $60

LOT 69252/68053/62160
62496/62516/60569 shown

$59.99
REG. PRICE $119.99

84036642

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SUPER COUPON

29 PIECE TITANIUM NITRIDE COATED HIGH SPEED STEEL DRILL BIT SET

SAVE 44%

LOT 61637 shown
5889/62281

NEW

WARRIOR

$13.99
REG. PRICE $24.99

84068335

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SUPER COUPON

1650 PSI PRESSURE WASHER
PACIFIC HYDROSTAR

SAVE $50

LOT 69488
- 1.3 GPM

$79.99
REG. PRICE $129.99

84062008

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SUPER COUPON

4-1/2" ANGLE GRINDER
drillmaster

LOT 60625 shown
95578/69645

SAVE 40%

$11.99
REG. PRICE $19.99

84028591

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WOW SUPER COUPON

26", 4 DRAWER TOOL CART

★ WINNER ★ – Truckin' Magazine

US★GENERAL



SAVE $180

- 580 lb. Capacity

LOT 95659 shown
61634/61952

$99.99
REG. PRICE $279.99

84034161

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WOW SUPER COUPON

2.5 HP, 21 GALLON, 125 PSI VERTICAL AIR COMPRESSOR

CENTRAL PNEUMATIC



SAVE $70

LOT 67847 shown
61454/61693/62803

$149.99
REG. PRICE $219.99

84025893

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WOW SUPER COUPON

PNEUMATIC ADJUSTABLE ROLLER SEAT
PITTSBURGH



LOT 46319 shown
61160/61896

- 300 lb. Capacity

SAVE 50%

$19.99
$27.99
REG. PRICE $39.99

84028869

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SUPER COUPON

MOTORCYCLE STAND/ WHEEL CHOCK
PITTSBURGH

- 1800 lb. Capacity

LOT 61670/97841 shown



SAVE 46%

$47.99
REG. PRICE $89.99

84040061

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SUPER COUPON

32 PIECE SCREWDRIVER SET
PITTSBURGH



LOT 61259
90764 shown

SAVE 60%

$5.99
REG. PRICE $14.99

84060217

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SUPER COUPON

PITTSBURGH

1000 LB. CAPACITY MOTORCYCLE LIFT

SAVE $400



LOT 69904
68892 shown

$299.99
REG. PRICE $699.99

84029971

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SUPER COUPON

MICROFIBER CLEANING CLOTHS PACK OF 4
HFT



LOT 68440
69678 shown

SAVE 66%

$1.99
REG. PRICE $5.99

84063686

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SUPER COUPON

2 PIECE VEHICLE WHEEL DOLLIES
PITTSBURGH

SAVE 37%

- 1500 lb. Capacity



LOT 60343
67338 shown

$49.99
REG. PRICE $79.99

84048215

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SUPER COUPON

WIRELESS SECURITY ALERT SYSTEM
Bunker Hill Security



LOT 93068 shown
69590/61910/62447

SAVE 60%

$11.99
REG. PRICE $29.99

84034095

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SUPER COUPON

12 TON SHOP PRESS
CENTRAL MACHINERY

- Pair of Arbor Plates Included



SAVE $100

LOT 33497
60604 shown

$99.99
REG. PRICE $199.99

84068525

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Customer Rating ★★★★½

AWARD WINNING QUALITY

1500 LB. CAPACITY MOTORCYCLE LIFT

PITTSBURGH AUTOMOTIVE

LOT 69995 shown
60536/61632

- Lift Range: 5-1/4" to 17"

SAVE $80

$69.99

~~$89.99~~ REG. PRICE $149.99



84105043

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SUPER COUPON

FREE

WITH ANY PURCHASE

3-1/2" SUPER BRIGHT NINE LED ALUMINUM FLASHLIGHT

LOT 69052 shown
69111/62522
62573



$6.99 VALUE

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84106895

SUPER COUPON

RETRACTABLE AIR HOSE REEL WITH 3/8" x 50 FT. HOSE

CENTRAL PNEUMATIC

LOT 69265/62344
93897 shown

SAVE $90



$59.99

REG. PRICE $149.99

84077993

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SUPER COUPON

2500 LB. ELECTRIC WINCH WITH WIRELESS REMOTE CONTROL

BADLAND

LOT 61258 shown
61840/61297/68146

NEW



SAVE $90

$59.99 REG. PRICE $149.99

84099179

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SUPER COUPON

1/2" INDUSTRIAL QUALITY SUPER HIGH TORQUE IMPACT WRENCH

CENTRAL PNEUMATIC EARTHQUAKE

LOT 62627
68424 shown



- 700 ft. lbs. Max. Torque

SAVE OVER $55

~~$74.74~~

~~$99.99~~ REG. PRICE $129.99

84104796

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WOW SUPER COUPON

9 PIECE FULLY POLISHED COMBINATION WRENCH SETS

PITTSBURGH

SAE
LOT 69043/42304 shown

METRIC
LOT 42305/69044

YOUR CHOICE!

$5.99 REG. PRICE $15.99

SAVE 62%



84105276

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WOW SUPER COUPON

4" x 36" BELT/ 6" DISC SANDER

CENTRAL MACHINERY

LOT 62502
97181 shown



SAVE $80

$59.99 REG. PRICE $139.99

84074030

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SUPER COUPON

AUTOMATIC BATTERY FLOAT CHARGER

CENTECH

LOT 42292 shown
69594/69955



SAVE 70%

$5.99 REG. PRICE $19.99

84088933

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SUPER COUPON

4 PIECE ANTI-FATIGUE FOAM MAT SET

LOT 61607/62389
94635 shown



SAVE 53%

HFT

- Each pad measures 25" x 25"

$6.99 REG. PRICE $14.99

84092402

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SUPER COUPON

4000 PEAK/ 3200 RUNNING WATTS 6.5 HP (212 CC) GAS GENERATORS

PREDATOR GENERATORS

SUPER QUIET

LOT 69729/68528/69676 shown

SAVE $200



- 70 dB Noise Level

LOT 69675/69728 CALIFORNIA ONLY

~~$399.99~~ $299.99 REG. PRICE $499.99

84100554

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SUPER COUPON

6" DIGITAL CALIPER

PITTSBURGH

LOT 47257 shown
61585/62387

Includes two 1.5V SR44 button cell batteries.



- SAE and Metric

SAVE 65%

$10.99 REG. PRICE $31.99

84102900

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SUPER COUPON

44", 13 DRAWER INDUSTRIAL QUALITY ROLLER CABINET

US GENERAL PRO

SAVE $330

- Weighs 245 lbs.

LOT 62744/68784 shown
69387/62270/62591



$369.99 REG. PRICE $699.99

84103169

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SUPER COUPON

MOTORCYCLE WHEEL CHOCK

PITTSBURGH AUTOMOTIVE

SAVE 40%

LOT 69026
60392 shown



$29.99 REG. PRICE $49.99

84077279

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SUPER COUPON

45 WATT SOLAR PANEL KIT

SAVE $160

LOT 62443
68751 shown



THUNDERBOLT MAGNUM solar

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84081599

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SUPER COUPON

LOW PROFILE MOTORCYCLE DOLLY

LOT 95896



- 1250 lb. Capacity

SAVE $45

$74.99

Haul Master REG. PRICE $119.99

84090021

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SUPER COUPON

DIRT BIKE STAND

PITTSBURGH AUTOMOTIVE

SAVE 50%

LOT 67151



- 1000 lb. Capacity

$19.99 REG. PRICE $39.99

84108472

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Contents

Issue #329



44 *Learning Curve*



64 *2015 Dennis Kirk Patriot Ride*

HOTTEST CUSTOM IRON

58 PAUL MORRIS' NINE-SECOND FXR
Of small worlds and fast motorcycles

68 MYSTERY VICTORY
Speed Foundry's Kyle Shorey builds one killer Vic for Sturgis!

DEPARTMENTS

STAFF BOX	10, 12
SHIFTING GEARS	14
TAKING AIM	16
QUOTED & NOTED	18
HARLEY HERITAGE	20
PROTECT YOUR RIGHTS	22
SCRATCHING & WONDERING	24
LETTERS	26
WIDGETS	112
CYCLEMART	118
AD INDEX	120
MEMORIES	122

84 READER'S RIDE: THE SHOP CLOSER
Troy's all-matched-up Shovel catches our attention at the 2015 Patriot Ride

MOTORCYCLE BAGGER

44 LEARNING CURVE
Testing, testing, one, two, three

94 JIMS FORCEFLOW FAN
A cool way to cool off your engine

102 BIKER'S CHOICE REBUILD
Part III: Rebuilding the rear wheel

HOT XL

78 21 AND LEGAL
Paul Yaffe gives a Sporty the big-wheel treatment

RIDDEN & REVIEWED

50 2015 H-D HERITAGE SOFTAIL CLASSIC
Classic in more than name



58 *Paul Morris' Nine-Second FXR*









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Contents



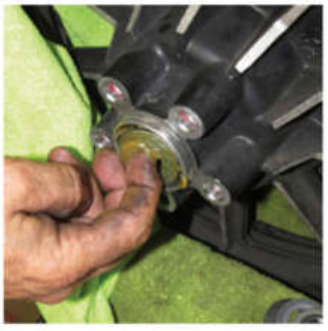
50 *2015 H-D Heritage Softail Classic*



Page **88**



Page **94**



Page **102**



Page **108**



110 W.R. CASE KNIVES
An open-and-shut case(s)

NUTS & BOLTS

32 HOW IT WORKS: EXHAUST SYSTEM THEORY
Part II: Exhaust system designs, backpressure, O_2 sensors, catalytic converters, and slip-on mufflers

38 TECHLINE: VICTORY MAGNUM VS. H-D ROAD GLIDE
Part III: Stability, handling, ABS brakes, fuel economy, and whether Victory or Harley is faster

88 FAT BOY UPGRADES
Installing a H-D Layback license plate mount, Slanted LED taillight, and Badlander seat

108 HOG HELPLINE HIGH IDLES & NOISY LIFTERS



74 *2016 Indian Lineup*

HANDBOOK

64 2015 DENNIS KIRK PATRIOT RIDE
Honoring America's fallen heroes

74 2016 INDIAN LINEUP
The war bonnet leads the charge into '16



78 *21 And Legal*

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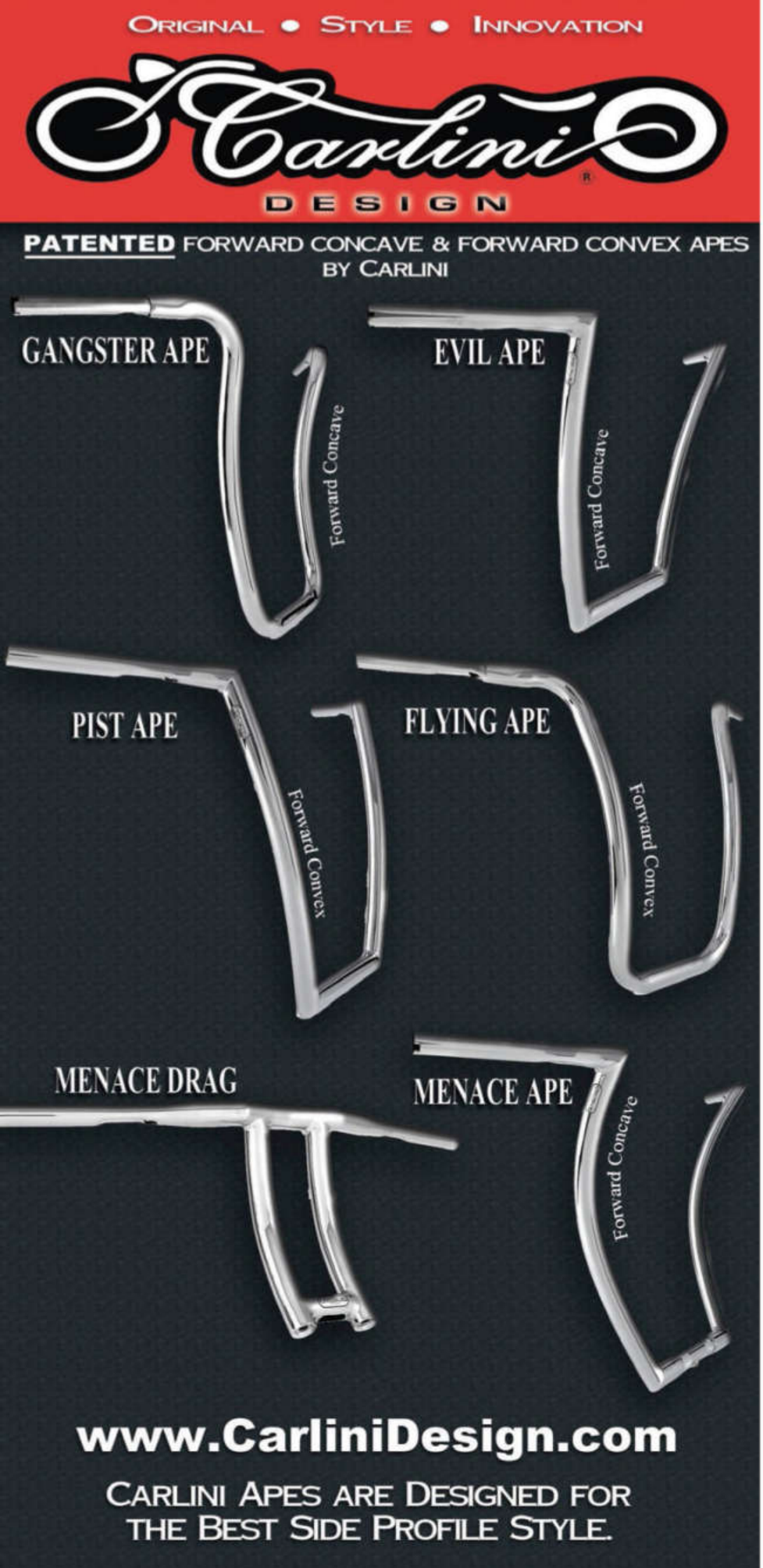


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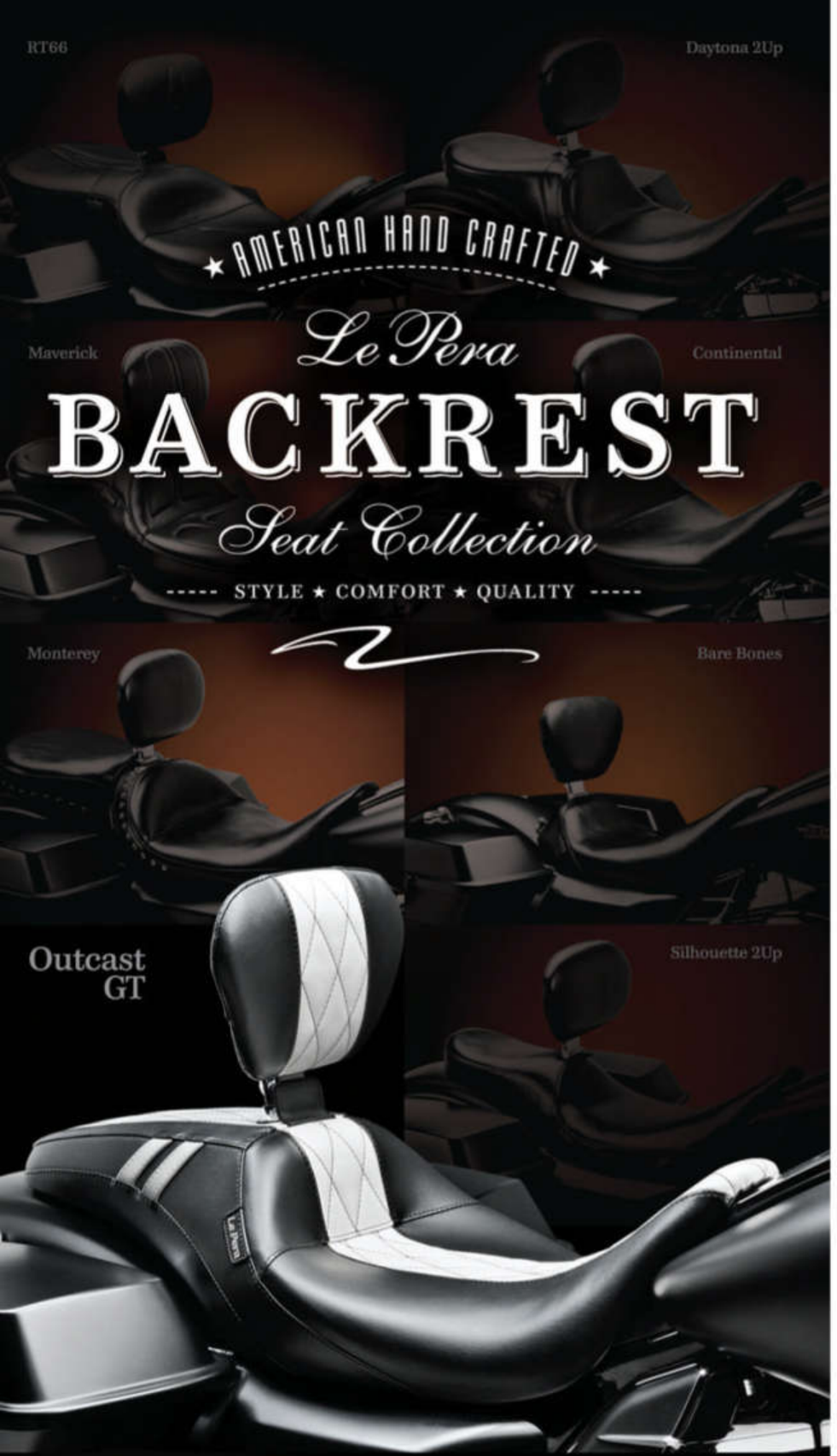
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By & For Real Riders

OUR MAGAZINE IS PUBLISHED FOR AND BY REAL motorcycle enthusiasts. That means we prefer to feature bikes, tech, and rides that have more appeal to riders of all styles and tastes.

All of the featured bikes are riders, too, which means they're ridden by the owners. And members of our staff always ride the bikes and use the products that we review; our reports aren't rehashed press releases.

When planning each new issue, I sit with Chris Maida and his team to discuss the planned contents. Our goal is to share as much great editorial as we can fit into each issue. And as you know, each issue includes a review of a new motorcycle, plus we share plenty of tech and DIY how-to articles, from basic to advanced shop-skill levels. We also feature a range of custom bikes (mild to wild), a classic motorcycle, a tour, and/or an event. Every issue of *American Iron Magazine* also shares and reviews information on new products, and there are a variety of editorial opinions and more from our various columnists. And we enthusiastically do this 13 times a year (a new issue every four weeks).

In this issue, we share five editorial columns: Chris and I are joined by Jim Babchak (Harley Heritage), Jeff Hennie (Protect Your Rights), and Rick Fairless (Scratching & Wondering). Elsewhere in the issue, Tracy Martin and Donny Petersen explain pertinent tech theories, and Tyler shares his experiences from the Patriot Ride. We also teamed with Donnie Smith to produce the Patriot Ride bike show, where we found a great Reader's Ride custom Shovelhead (see page 84). We also have other custom American bikes and plenty of tech.

I opened this column by stating we're published by and for real enthusiasts. That said, I invite you to send us photos of you and your bike. We want to feature them on these pages. Great snapshots are fine for Letters and/or Snaps (please send them to Letters@AmericanIronMag.com), but if you feel that your bike is worth a feature, please include digital photos of the bike's left and right sides, plus some detail shots. Make sure the photos are well-lit and in-focus (to ReadersRide@AmericanIronMag.com)!



PHOTO BY JIM DOHMS

We want to feature you and your bike

Fun In The Florida Sun

A WEEK AFTER THIS ISSUE GOES ON sale, thousands of riders will be traveling to Florida for the annual autumn Orlando and Daytona pilgrimage. AIMExpo in Orlando and Daytona's Biketoberfest are two great reasons to enjoy the fun in the Florida sun. I plan on being there for both, and I invite you to join us. If you see me wandering around, please say "Hi."

In addition to the AIMExpo in Orlando (open to the industry October 15-16 and the general public October 17-18), the AMA Motorcycle Hall of Fame will induct a new class of HOFers on October 17 in Orlando. Six men will be inducted this year: racing champion John Kocinski, former Harley CEO Rich Teerlink, off-road racer Rodney Smith, John Parham (of J&P Cycles and National Motorcycle Museum), dirt track racer Alex Jorgensen, and race team manager Keith McCarty. On behalf of all motorcycle enthusiasts, I congratulate these men, especially my close friend John Parham. For more information and to purchase tickets, please go to MotorcycleMuseum.org.

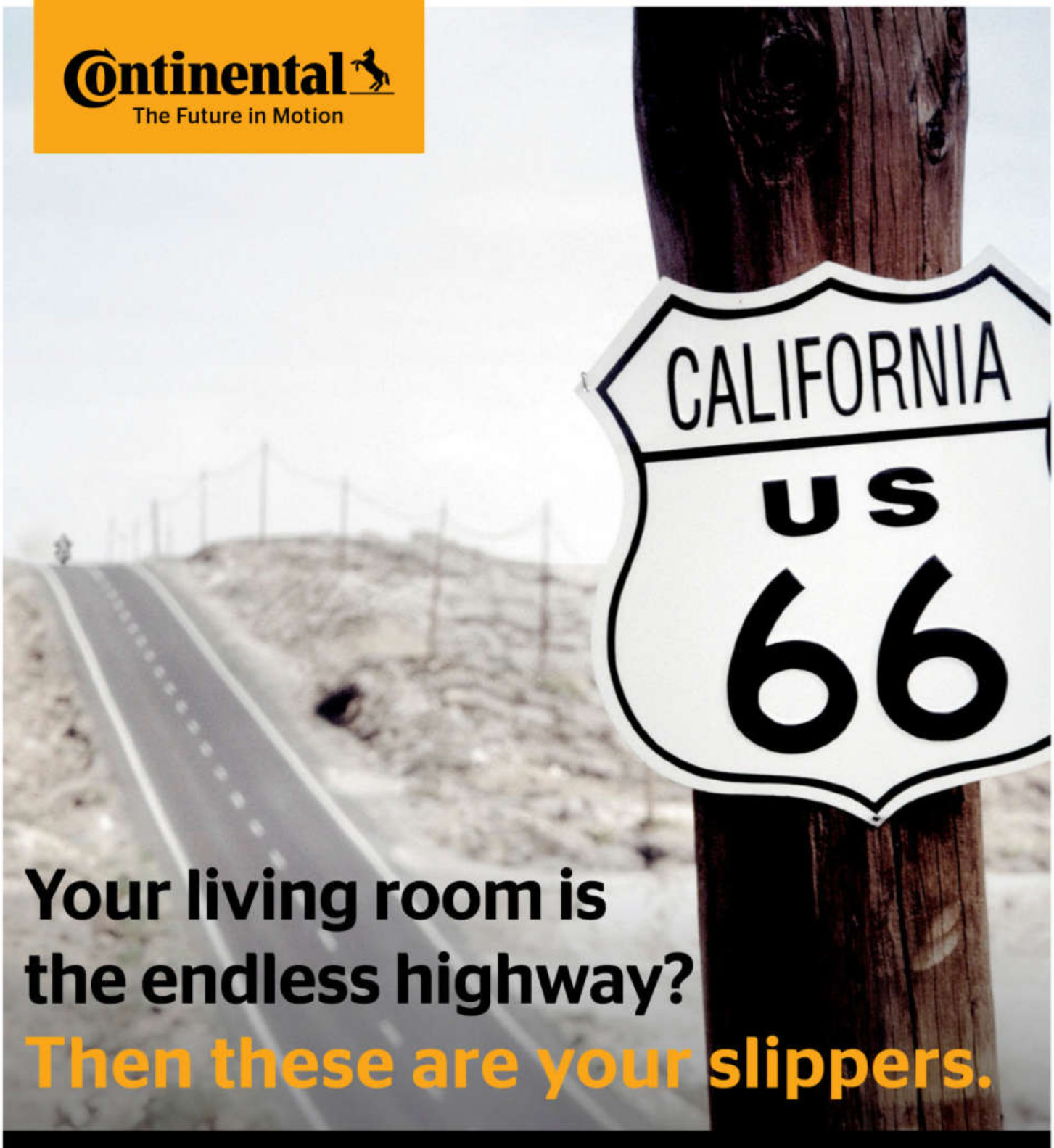
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BUZZ KANTER
Publisher/Editor-In-Chief, *American Iron Magazine*

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On Any Sunday

FOR THE LAST SEVERAL Sundays, I've been riding with a friend or two through the rolling hills of upstate Connecticut and New York. Oddly enough, I haven't taken the time to do that for a number of years.

It's amazing how easily the years fly by without realizing it. How many times have you heard that line?! But it is, as many of you know, so very true. For me, the last few years have been exceptionally busy. The staff and I were putting out both *AIM* and *Motorcycle Bagger*, which meant shipping a magazine, on average, almost every two weeks. Throw in some traveling, which I do often, and things got pretty busy! But before you offer me some cheese, I'm not whining. It's a great job and I enjoy all aspects of it. (Well, not the deadlines, but that goes with the territory!) Any weekends I was actually home were spent working on my own car or bike projects. My other hobbies, all of them, were pushed to the side. After all, I had to "get so much done." That was a *big* mistake!



Taking a day off, with spouse, friends, or all together, actually makes you more productive

Of course, I was still getting a lot of riding in, but it was, for the most part, away from home. One of my main trips is my yearly ride out to Sturgis and back with Dain Gingerelli, my brother from another mother, former editor of *Motorcycle Bagger* and *Ironworks*, and now an associate editor for *AIM*. My other main yearly ride is the vacation I take with Twisted Trailz. (We'll have this year's trip in the next issue, and our 2016 trip will be announced in the following issue.) Of course, there are other rides and trips mixed in there, but I maybe got two local Sunday rides in for the whole year. And while those magazine-related trips are great, they didn't make up for the ones back home I stopped making time for. I was getting pretty burned out, but I didn't realize it. That's how it is with a lot of things, isn't it? The change is gradual, so you just keep adjusting to it as best you can and keep doing what you're doing. Now that I've been able to ride again with some local buds, I realize the loss was more than just not getting to hang with old friends. Those Sunday rides, plus the time with friends, helped me drop the stress from the job and relax my body, getting me ready for the next work week. Of course, this isn't news to many of you. You've either been down this road already or have been smart enough to avoid it altogether. I actually know better, too, but fell into this cycle anyway.

If some of what I'm saying here sounds too familiar, I highly recommend a change in priorities. It's okay to take time off, even when there's a "ton of things I've got to do." Taking a day off, with spouse, friends, or all together, actually makes you more productive, since you won't be burned out and performing at a reduced capacity. Not to mention, a lot happier!

See you on the road.



Chris Maida
Editor

Chris Maida

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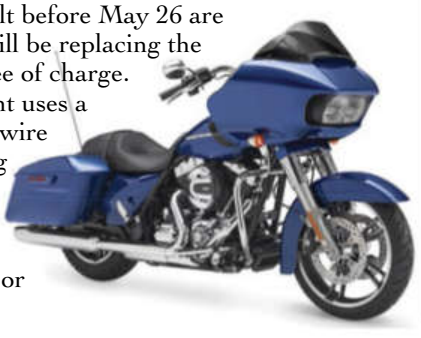
AIM Winner Receives Indian

IN ISSUE #323 OF *AMERICAN IRON MAGAZINE*, WE announced all of the winners of our 25th anniversary sweepstakes. The event was our way of saying "thank you" to our readers for making those 25 years possible and for helping our publication become the world's number-one selling Harley magazine. Of the 39 winners, the grand prize went to Gary Moody of Fort Worth, Texas, who won a brand-new Indian! At the 75th Sturgis Motorcycle Rally, a representative of Indian Motorcycle presented Gary the keys to the prize: a 2015 Indian Chief Vintage. What a lucky guy! To recap our 25th anniversary celebration, we first announced it in issue #305. Then from issues #308 to $320 we randomly picked three names as winners of three monthly prizes: a complete set of Fix My Hog DVDs, a $100 gift card to GreaseRag.com, or a $1,000 Dennis Kirk gift card. Their names were announced each month in here Quoted & Noted. To enter, all you had to do was subscribe to *AIM* or send in a 3″ x 5″ card with your contact info as an entry. If you already were a subscriber, your name was automatically entered. Congrats, Gary! And here's to another 25 years! Learn more by going to IndianMotorcycle.com.



H-D Recall Alert!

HARLEY-DAVIDSON IS RECALLING MORE THAN 185,000 of 2014-15 model year motorcycles because the saddlebags may fall off. The affected motorcycles have saddlebag mounting receptacles (#10900009) that may not adequately secure the saddlebags to the motorcycle. The saddlebags could fall off the bike while it's being ridden. All Touring models built before May 26 are affected, and dealers will be replacing the part with a new one free of charge. The updated component uses a stronger stainless steel wire spring on the saddlebag receptacle. To find out if your motorcycle is being recalled, enter your VIN at H-D.com or visit your local dealer.





Free Rental For Vets

HAMILTON HARLEY-DAVIDSON IN STURGIS, Michigan, is offering a free motorcycle rental for any veteran or current member of the US Armed Forces. Hamilton H-D, along with the Sturgis Area Chamber of Commerce, purchased a 2015 Fat Boy Lo to offer vets and active service members a free day of "throttle therapy." The program will run every year from May through September. The first to ride the 2015 Fat Boy Lo was Nathan Johnson of Sturgis, a veteran of wars in Iraq and Afghanistan. For more information, visit HamiltonHarley-Davidson.com.

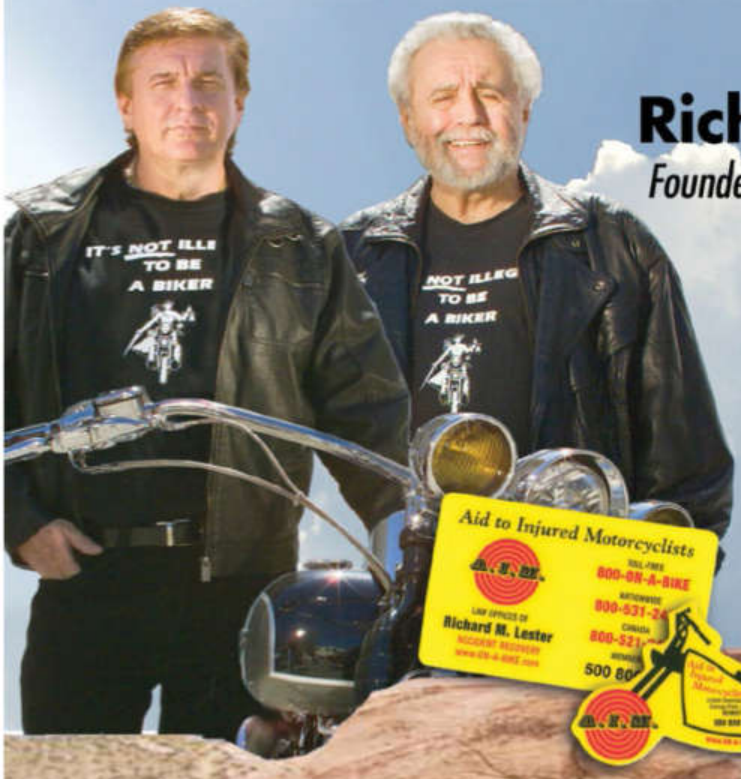


Makeover Winner

GARAGE-GIRLS AND GEICO MOTORcycle are proud to announce this year's Ultimate Biker Makeover winner, Matthew Palmer. Matthew, a five-year US Army medic, was badly injured in a motorcycle crash and is set on getting back on two wheels. He'll get to take home all of the Ultimate Biker Makeover prizes, which include a wardrobe of shoes from Harley-Davidson Footwear, a case of full synthetic oil from Spectro Oils, a new Mustang seat, a set of Avon tires, clothing from Hijinx Apparel, products from Biker's Choice, and a helmet, jacket, and gloves from J&P Cycles and Roland Sands Design, among others. For more information, visit Garage-Girls.com. AIM

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Back To The Future

I've spent the past 44 years living in the past — from a motorcyclist's standpoint, that is. Starting when I was 16 years old, my goal has always been to ride old Harley-Davidsons, vintage iron that would transport me to an earlier time and place when life was simpler, bikes' mechanical features made sense, and morality was black and white. I've never had much interest in modern technology, such as disc brakes, fuel injection, ignition maps, MP3 players, electric starters, sensors, and other newfangled gizmos that operate on black box theories and require a degree in engineering to understand.

A few weeks ago, I was scheduled to drive to the Adirondack Mountains in upstate New York to pick up my son Timmy (shown with bike) from his early summer sleepaway camp. I was coming from Rhode Island, and the plan was to pick my wife, Fern, up in Albany where she would arrive by train before we would continue on to the Canadian border where the camp is located. She called to say the Amtrak train was about an hour late, so I could take my time getting to the station.

Love it. I could put the car in cruise mode and get a feel for the area and hopefully even see some cool older bikes parked roadside, in a garage, or yard waiting to be rediscovered. Lo and behold, as I was heading down a two-lane road, I passed a Harley with a for-sale sign on it in someone's yard. At first glance, it looked too new for me, but I had plenty of time, so I turned around and went back for a second look. It turned out to be a 1997 Heritage Softail Springer, fully dressed in Birch White with red accents, basket-weave saddlebags and windshield bag, and matching tank divider. I've always admired this model; of all the bikes to come out of Milwaukee during the last 35 years, this one truly captures the spirit of the venerable Knucklehead/Panhead era (complete with springer and leather bags). The more I looked at the bike, the better it looked. The chrome springer, triple headlight, proud stance, wide whitewalls, spoke wheels, chrome luggage rack, and fishtail exhaust added up to one very sharp machine. I called the phone number on the sign and made a deal with the owner on the spot. I returned a few days later with my Harbor Freight foldable trailer to retrieve the old girl. I smiled all the way home, checking every few miles to make sure my new ride was safely on that trailer and thankful to finally own a bike I'd admired at a distance, even if it was considerably newer than anything I'd ever thought would hold a spot in my garage. When I arrived home, I put the bike in my garage and went to bed. I slept soundly that night!



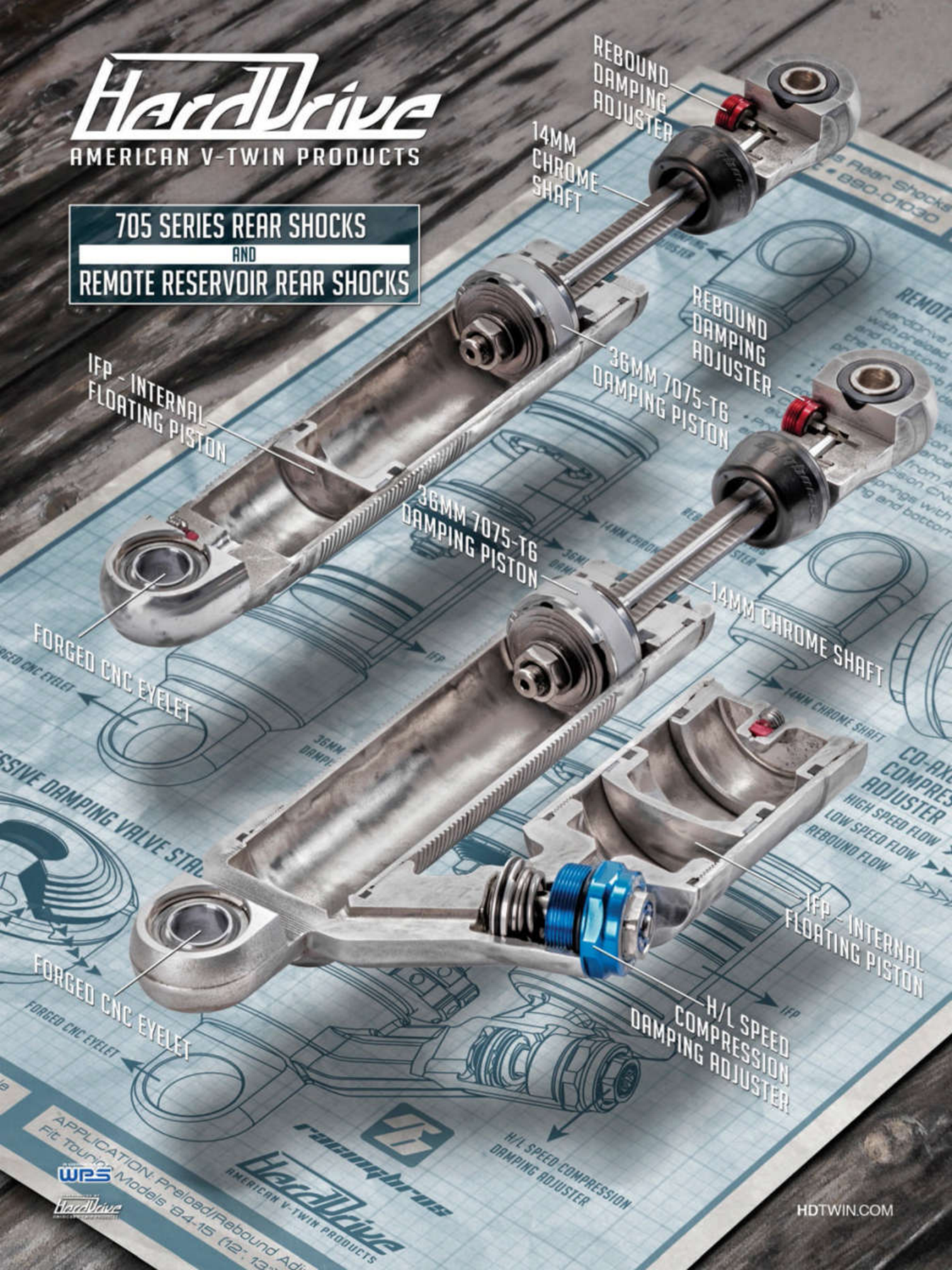
I was thankful to finally own a bike I'd admired at a distance, even if it was considerably newer than anything I'd ever thought would hold a spot in my garage



When I fired up the old Evo engine the next day for my first ride, I was amazed by how easily that carbureted engine started and idled, how effortlessly the five-speed tranny shifted into gear, how effortlessly it rode down the road, how balanced it felt through the turns, how well it stopped, and how much fun it was to just ride.

A little research that night on the Internet revealed quite a loyal following for these early Heritage Softail Springers, and there are a few web sites dedicated to them. I realized there's a whole group of fans of these machines who are so far ahead of me on this curve. But I'm glad to join the club and I'm excited to see people considering these bikes as future classics.

So I guess I learned a few lessons this past week. One was that I needed to open my aperture and think in a broader sense about what is cool and what is classic. Second, I have to accept that time marches on, tastes mature, and convenience and modern technology are part of our new traditions. Third, that technology didn't stop in 1971 with the release of the Super Glide, and most important of all, I learned that you can teach an old dog new tricks. And that was a very good lesson to learn indeed! **AIM**


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E-ZPass Is Not So Easy

I DO A LOT OF LONG-DISTANCE RIDING WITH MY friends. We typically cover 450-800 miles a day for a week or more at a time. It's a blast. But because we commit to such high-mile days, efficiency is important. During one trip a few years ago, I was the only rider without an E-ZPass, forcing me to sit in the long lines for the cash-only lanes. That forced my riding brothers to wait on the side of the road for me while I dug cash out of my pockets. I was the weak link. Something had to change.

Many of the heavily populated areas in America utilize E-ZPass systems, which is a device about the size of a cigarette pack that allows subscribers to pay road tolls electronically and not have to stop to pay tolls. The device has a transponder that communicates with the toll collectors when you drive or ride under a sensor on the highway. Sounds easy, right? Not if you're on a motorcycle.

I enrolled in the system and got my own transponder. Never mind that the good state of Virginia now knows where I am on my motorcycle 24/7, but the state probably already knew that anyway. Throwing privacy to the wind, I eagerly opened my package when it arrived a few days later. The instructions had me call the state tolling agency to register the device with my credit card and bank accounts. So I called the agency, at which time the associate who answered the phone also asked for the make and model of the car I drove. I told him that I would use my E-ZPass for a car and a motorcycle. You would've thought I was demanding free tolls for life. "You absolutely cannot use that device with any motorcycle," said the person on the other end of the phone rudely. "Why not?" I inquired.

Turns out, if you want to use the E-ZPass on your motorcycle, you need a different device altogether for the price of 25 bucks. I realize that's not exactly a princely sum, but 25 bucks is 25 bucks, and I already had a transponder in my hand! I asked how E-ZPass could verify exactly what vehicle I would be driving or riding. He told me cameras, lots of cameras. The newer systems are so complex that as the receiving antenna picks up your signal, a camera takes a picture of the front and rear of your vehicle and then matches them to your account. If the vehicle doesn't fit the one in the profile, you're considered a scofflaw and sent a pricey citation in the mail a few days later. So, purely for journalistic reasons, I bought the motorcycle device to give it a try.



If you don't pay a toll to the state, it fines you? Something stinks about that

I do a lot of my riding on county roads, so the device wasn't needed until recently. In fact, it sat for a couple of months, and I even received an e-mail from the toll agency telling me that if I didn't use the device soon, I would have to pay the agency a fine. Isn't that rich? If you don't pay a toll to the state, it fines you? Something stinks about that.

So I grabbed the transponder and headed out for a Friday afternoon ride, again, purely for journalistic reasons. The device is designed to be mounted to a car's windshield and is therefore designed to communicate with the tolling agency that way — and that way only. So to ride a motorcycle under the antenna, you must take one hand off the handgrip and procure the transponder from a pocket or windshield compartment so you can hold it up to mimic the angle that would be the car windshield position. I looked as though I were saluting a former German dictator.

Did my motorcycle transponder work? Yes. Was it a royal pain in the rear? You know it. The bike I rode that day didn't have a windshield or any forward storage compartment to speak of, and my riding gear didn't have chest or side pockets, forcing me to cram the transponder into the back pocket of my jeans. Fumbling for the device while keeping up with traffic and then jamming it back into my pocket all while riding with one hand was an exercise in danger. Sure, it was nice not to stop for the oily cash-only lane. But one thing my E-ZPass wasn't was easy to use. **AIM**

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On My Bike, Looking For America

HEY, YA'LL, I DON'T KNOW ABOUT YOU, BUT THE America I know today isn't the same America I knew and loved as a kid. I'm still very proud of my country, but we need to make some big changes. When I was a kid, my younger brother, Randy, and I played outside all day long. And we'd get up before daylight to ride our Sting-Ray bicycles three miles to the fishing hole. Ma would tell us that we had to be home by sunset. She told us that sunset was a sign from God that it was time for Rickey and Randy to come home (I love you, Ma!). When we were older, for spending money we mowed our neighbors' lawns and threw the *Dallas Times Herald* newspaper after school.

It seems to me that the 1950s, '60s, and '70s were a kinder, simpler time in America. Just look at the TV shows that were popular back then: *The Andy Griffith Show, Leave it to Beaver, The Honeymooners, I Love Lucy, The Ed Sullivan Show, Happy Days,* and *Gunsmoke*. We watched those shows as a family, and they made us laugh as a family. Who among us didn't have a crush on Marcia Brady or Lori Partridge? It seems that much of today's TV shows are filled with sex and violence, and our kids and grandkids are watching this trash. Why does it have to be that way?



I just want to get on my motorsickle and head out to look for America

Lemme tell ya, I just want to get on my motorsickle and head out to look for America. I don't know when I'm gonna go, but I'm gonna go to search for the America of my youth. I know it's out there, and I just want to experience it one more time. I want to live in a house with a screen door and a clothesline in the backyard and with a couple of rockin' chairs on a big front porch. I want to live in a world where Saturday night means the neighbors are coming over, and Mom and Dad are making homemade ice cream. A place where the kids play football in the front yard and the radio plays songs by Hank Williams, Ray Charles, Johnny Cash, Chuck Berry, and Jerry Lee Lewis. A place where you don't lock your doors, and everybody leaves his car keys in the ignition. Does that place still exist? I don't know where it is, but I wanna go look for it!

I dream of getting on my bike and just riding across this fine country. I don't want to get on any roads with more than two lanes, and I don't want to visit towns bigger than Mayberry. I want to stop at every mom-and-pop greasy spoon and gas station on the way. I want to talk with anybody who'll give me the time of day, and I want to hug ever' dang one of them! I want to find the peace of mind that I once knew in a nation that I know still exists somewhere in our great land. I want to see and hear American school kids say the pledge of allegiance with "one nation, under God" being the most important part! I want to go to a place where families still eat supper together every night.

I'm not a very political person, but it seems to me that our leaders have failed us. It shouldn't be about Democrats or Republicans; it should be about restoring American values. That's the kind of person I'm voting for, and I don't care if that person is black, white, red, or purple, a man, a woman, or transgender. I just don't care as long as these people can restore America to the proud, powerful nation it once was.

Ya know what I've just figured out? I've turned into my Grandpa, and lemme tell ya, I couldn't be prouder about that! Now, please don't think I'm slamming anybody because I'm not! America is made of people of every race, gender, color, and sexual orientation. America has always been a melting pot of different kinds of people, and that's what makes us great. Don't get me wrong. I love progress and new technology. I mean, I even have air conditioning in my 1969 Chevy pickup, but my sheepdog, Alice, and I prefer to ride with the windows down!

By the way, I never wonder about whatever happened to vehicles I "used to own." Vehicles like my 1959 Chevy panel truck, 1969 Chevy pickup, 1977 Dodge Good Time van, 1979 Trans Am, 1965 Panhead, 1975 Electra Glide, 1982 FXR Shovel, 1974 Honda XL250, 1976 Bultaco, or even my first wife; I still have all of them!

P.S.: scratching & wondering. Where are Barney Fife and Jed Clampett when you need them?

Rick owns Strokers Dallas Motorcycle Shop, Strokers Ice House Beer Joint, Strokers Ink Tattoo Parlor, RF Custom Victory Parts, and Big State Foundation Grill. Check out his web site at StrokersDallas.com.

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CRUISIN' THE ALPS I've been riding my 2014 CVO Limited through the French Alps and have been having an excellent time. I love your magazine and look forward to every new issue.

ANDRÉ OVEREEM
Ede, Netherlands

LONG-LASTING TIRES In Issue #324's Hog Helpline, Randall Ross had a question about tires. I had a 2012 Harley-Davidson Ultra Limited. On the factory tires, I got just under 20,000 miles on the rear tire and had almost 1/16" of tread left at the time of replacement. I replaced the factory front tire at just under 24,000 miles with 3/32" of tread left on the front tire. I replaced it at that time because it looked like there was some separation going on with the tire. If not for that, I think I could've gotten 25,000 miles out of the front tire. I believe the main reason I got those kinds of miles out of the factory tires is because I'm always making sure the tire pressure is set to the factory-suggested air pressure. The other reason is I didn't always ride it like I stole it, but I didn't completely pamper the bike, either. Also, I think downshifting instead of heavy braking will help the tire and brakes last longer. When I traded the bike, I still had almost half of the brake pad left on the factory brakes. I now have a 2015 Limited and plan on getting the same type of mileage from these tires.

DON NEMETH
Davenport, FL

BACK ON THE IRON HORSE It's been 22 years since I was last on the iron horse. Back then, I had a 1982 FXB Sturgis, which I sold when my

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-Thank you,
Rick Rademacher

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third child was born. Now after they have all grown up and college bills have been paid off, I bought this 2005 Fat Boy with a custom factory-numbered, radical High Roller paint job. I added some Willie G accessories and a set of Rinehart 2-into-2 Churchills. The season began in May, and I have logged over 3,500 miles, which included my first trip to Americade Motorcycle Rally. It feels great to be back in the saddle again.

NICK FATIBENE
Shelton, CT

APEHANGER RANT Hi, guys, you have a great magazine. I've been reading it for years! Want to know why they call them apehangers? Cuz it's monkey see, monkey do. Apparently, everyone gets them these days! Baggers with apes? Ridiculous! Stock Sportys? Same thing. Only a few old-school styles support that look, and let's face it, it's a trade-off between style and handling and always has been. And, please, before all the tough guys tell me how great they handle or how comfortable they are, that's bunk! They can't possibly handle well! And comfort? Please! I've been riding for over 40 years; I've been there, done that. Be glad when the monkeys move on to the next fad … or take up boating. That's my rant for today!

BOB BIERMANN
Via Internet

1200R SPORTSTER I picked up a copy of *American Iron Magazine* (issue #326) at Edmonton International Airport while on the way back home to the UK from visiting family in Canada. It was good to see (and hear!) lots of Harleys in Edmonton. I live in Wales, and they're pretty thin on the ground. Referencing the letter in Sportster Corner from Randy McCarney about his 2008 XL1200R Sportster, I don't think many were sold in the UK. This can be due to their relatively high price (cheaper to buy an 883 and convert it later than buy a factory 1200). Having said that, you did get a lot of Sportster for your money back then, including the tach and twin discs up front. I've had a 2004 model for about the last seven years, and it's a great bike. The only problem I've had was with the front brake master cylinder (a factory recall, which was sorted out by my local dealer at no cost to me). It already had Screamin' Eagle pipes on it when I bought it. I fitted a Screamin' Eagle air filter and jetted up the carb to suit. I also fitted Goodridge stainless front brake lines. It now goes, sounds, and looks great! And with the twin discs, it stops pretty well, too!

NIGEL STARNES
Wales, UK

I MEAN BUSINESS I have 43,000 miles on my Dyna Wide Glide, which I purchased new in 2006. Mods include a



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95" big-bore kit, 10.5:1 compression, H-D 211 cams, Rinehart 2-into-1 exhaust, Arlen Ness bars and mirrors, 180 rear tire kit, and Dynojet Power Vision tuner, which is outstanding. It sounds big and nasty, accelerates like a scud missile, and at idle, it has a distinct high-horsepower/high-compression "I mean business" throaty rumble that you feel from the top of your head to the bottom of your boots. I love my Harley and can't wait to get on it every chance I get. Love your mag.

RON ROSE
Via Internet

NEVER FORGET YOUR HERITAGE I attended the Thunder in the Smokies rally in Maggie Valley,



North Carolina, this year. In the photo, my bike is the 1999 Heritage Softail, and my wife's 2008 Heritage Softail Deluxe is in the back.

LAMA
Via Internet

NEVER GOODBYE Hey, Rick Fairless. I just read your article in issue #327 about Ma. I first saw Ma on your TV show. But nothing compared to meeting her at the Ice House. She was happy to let me take my picture with her and made me an awesome cheeseburger. She was/is awesome. I am inspired by how she was able to raise two talented sons. Your article truly moved me. Thank you for sharing. I believe one day your tears will turn to smiles from your wonderful thoughts of her. It's never goodbye; it's see ya later.

MIKE SORENSEN
Via Internet

Thanks for the kind words, Mike. Ma was a special lady, and I miss her immensely! Thanks for reading my



column in *American Iron Magazine* and thanks for taking the time to e-mail me! — *RF*

OLYELLR My 1995 Fat Boy has a S&S Shorty carb, SuperTrapp exhaust, ostrich skin seat, chrome forks, and a



whole lot of elbow grease. My custom license plate reads OLYELLR. I won two first-place trophies in my division this year, and one name says it all: Harley-Davidson. Great mag, keep 'em comin'!

TONY CODY
Gray, TN

PERFECT I ordered/purchased my 2008 FLHR Road King while on military deployment in Kuwait through



Military Car Sales from a British saleswoman with the last name of Perfect. And it's been a perfect ride. Retiring from the US Navy Reserve that same year, I've enjoyed countless trouble-free trips, tours, and miles. In 2014, I made my first trip to Sturgis and haven't looked back!

BRIAN "WAGS" WAGNER
Port Clinton, OH

EVEL BATTERY COVER On a recent ride through a construction zone, I came to the end of a section of milled asphalt and was launched into the air like Evel Knievel. Fortunately, everything landed straight, and I was able to finish my ride. Upon arriving home, however, I noticed that the battery cover on my 2004 Sportster was missing. While replacing the cover and clips, I noticed an extra slot in the top center of the cover. (I don't remember if the original cover had the center slot or not.) I was able to fish a wire wrap around the frame and through the slot to provide some extra security should I encounter another unexpected launch into space. I doubt that I'm the first person to think of this, but if someone had given me the idea before, it would have saved me about $170 for a new cover and clips. So maybe I can do that favor for some of your readers. Thanks for the great magazine, especially the articles about Sportsters.

JIM PERSON
Harrisburg, PA

ETHANOL I I'm a Motorcycle Riders Foundation (MRF) member, partly because of Jeff's column in *AIM*. I usually agree with him, but, Jeff, get out of the back pocket of Big Oil! The ethanol issue has more than one side! As with helmet and other issues, stats can be twisted. I'm a corn farmer, and ethanol has been good for agriculture and the general public — funny how when we started producing plenty of ethanol, all of a sudden oil became plentiful and cheaper. Coincidence? I think not. Your Harley runs lousy on ethanol because Harley doesn't engineer its bikes to run on ethanol. Whose fault is that? Ethanol? You do a good job, but stick to motorcycle rights and leave the oil companies to fight for themselves.

J. PRICE
Via Internet

ETHANOL II About Jeff Hennie's #327 column on ethanol: the use of ethanol in fuel is even worse than he explained. Not only does it ruin farmland, pollute waterways, and corrode engines, it actually increases the use of fossil fuels. Ethanol is net energy negative, taking more energy to produce than it gives back when burned! And that's not to mention the huge amount of water that's used in its production. Even Al "The World Has a Fever" Gore has renounced ethanol.

JOE COMFORT
Eustis, FL

ORANGE YA GLAD IT DIDN'T TAKE FOUR? It's taken me about three years to realize my vision for my



2011 Road Glide Custom from its stock form.

HANK RUTAN
Via Internet **AIM**

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EXHAUST SYSTEM THEORY

Part II: Exhaust system designs, backpressure, O_2 sensors, catalytic converters, and slip-on mufflers

IN THE LAST ISSUE, WE DISCUSSED HEADER PIPE LENGTH, header pipe diameter, sonic and pressure waves, and how they all affect how the exhaust gases are removed from the cylinder on the exhaust stroke. This time around we'll cover specific exhaust designs and their strengths.

Exhaust Designs

A 2-INTO-1 EXHAUST SYSTEM, LIKE THOSE MADE BY BASSANI Xhaust (BassaniPipes.com), terminates both header pipes into a tapered merge collector that, on a street-ridden system, may include baffling that acts as a muffler. The collector helps with scavenging exhaust gases. Generally speaking, exhaust systems that use a collector increase engine torque in the low to midrange rpm scale and work well with stock or modified motors. Engines used in Top Fuel racing generally do not use a collector because the cylinders are kept separate and engine rpm does not drop much below peak during a race. Nor do they use baffling of any sort for the same reason (drag pipes). A 2-into-1 system tends to provide a broad powerband and works very well for typical street riding where low and midrange torque is king.



This is a stock catalyst converter honeycomb inside a stock Harley-Davidson header pipe. The Motor Company uses catalytic converters to meet California Air Resources Board (CARB) and EPA specifications.

A 2-into-2 system uses a separate header pipe for each cylinder. Because each pipe is separate, they can be tuned for a specific powerband. The downside of a 2-into-2 system is that, unlike a 2-into-1 system, this setup doesn't produce large negative pressure waves in the header pipes that scavenge exhaust from the combustion chamber.

True duals are a variant of the 2-into-2 system in that they feature an exhaust pipe for each cylinder, but a pipe is located on each side of the bike. These systems are typically found on Road Kings and Touring Models, and also look good on Heritage, Nostalgia, or Fat Boy motorcycles. Some dual systems feature a crossover pipe (used on factory systems) that connects the front and rear exhaust pipes. The crossover pipe increases the volume of the exhaust system and, for some applications, can make more power by pulling a greater volume of exhaust gases from the engine.

We spoke to Gary Naito, the digital marketing director of Bassani Manufacturing to gain some insight about true dual systems. "Appearance-wise, true duals give your touring bike a cleaner look with each cylinder having its own pipe going down the body on each side of a dresser [bagger] and coming out under the bags. It's a streamlined look that a lot of riders prefer and also provides many options for trying out different slip-on mufflers. The sound is unique with pipes coming out each side of the bike allowing for a stereo effect, which can really come on at full throttle and give the rider a feeling and audio sensation of power."

Exhaust Backpressure

MANY RIDERS THINK THAT SOME amount of exhaust backpressure is nec-

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essary for good performance. This is not always the case. Oftentimes, installing smaller diameter header pipes, or adding backpressure to the system by restricting exhaust flow, may help a particular performance issue. This is the result of the added backpressure compensating for some other issue, such as poor fueling, wrong camshaft, incorrectly ported heads, valve sizes too large, or some other problem.

Because any engine is really an air pump, making power is a matter of getting air in and then back out of the engine as fast as possible. When the throttle is opened, there's almost 15 psi of atmospheric pressure pushing air into the engine as the intake valve opens and the downward movement of the piston creates a low pressure area in the cylinder. Once the combustion event is completed, the exhaust valve opens and the upward movement of the piston pushes the exhaust gases into the exhaust system. Inside the exhaust system, pressure and sound waves create a negative pressure that aids in moving the exhaust gases out the open end of the system. Exhaust system backpressure can only slow down the movement of the exhaust gases and does not increase exhaust flow. The vacuum signal (low-pressure wave) that follows the exhaust valve's opening is used to help scavenge the cylinder during valve overlap, which is when both exhaust and intake valves are open. Unwanted backpressure during overlap can cause the spent exhaust gases to re-enter the combustion chamber resulting in a loss of power.

O_2 Sensors & Cats

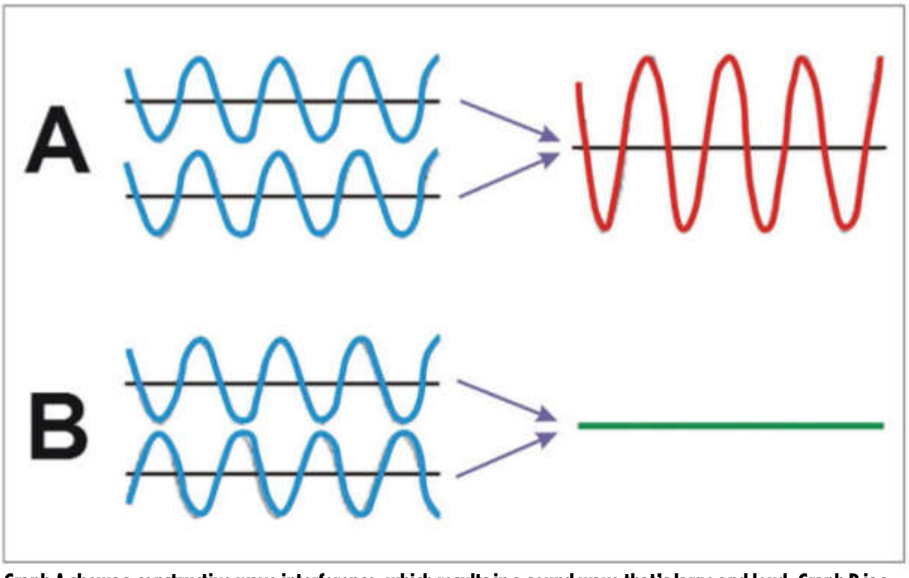
FACTORY EXHAUST SYSTEMS FOR SOME 2006, and all 2007 and up models have oxygen sensor bungs welded into the exhaust pipes with O_2 sensors installed just before the factory catalytic converter (cat). The use of these components helps The Motor Company to meet CARB and EPA federal emission regulations. How the use and installation of aftermarket exhaust system components relates to federal emission laws varies state by state. Motorcycle emission inspections are a mixed bag and, depending on what state you reside in, could consist of a visual inspection, tailpipe sniffer testing, or no inspection at all. The general rule regarding exhaust systems and emission requirements is if the catalytic converter and oxygen sensors are left in place, the bike would theoretically pass an emission inspection.

Because the cat is located just after the header pipe, as long as an aftermarket header pipe has oxygen sensor bungs installed, it can replace the stock header pipes. Slip-on mufflers are not an issue because they are located after the cat and do not affect emissions. BUB Exhaust used to sell a performance cat built into some of its systems, but BUB Exhaust has been purchased by another company; it's unknown if BUB will continue to make this product. BUB's performance cat was an alternative to illegally removing the factory cat when installing an entire aftermarket system. When purchasing exhaust components, check for a disclaimer from the manufacturer. If a disclaimer is used, the exhaust parts you're purchasing are probably illegal for street use. If you race (either off-road or on a track) your Softail/ Heritage/Ultra Classic/Fat Boy or other Harley-Davidson motorcycle, and do not use it on public highways, you are, of course, exempt from any federal emission requirements and can install any aftermarket exhaust component or entire system. To be sure of what's legal, check with your state motor vehicle department.

Slip-On Mufflers

ADDING SLIP-ON MUFFLERS, LIKE THOSE from Rinehart Racing (RinehartRacing.com), are by far the most popular exhaust system modification. Adding slip-ons allow the stock header pipes to be retained. Slip-ons can increase exhaust flow when compared to factory mufflers that use lots of internal baffling. While effective in reducing sound, lots of baffles can be restrictive to exhaust flow.

Muffler volume is an important design factor for slip-ons. This volume should be around 10 times the cylinder volume so the muffler is not restrictive at higher engine rpm. Too small a muffler volume, while not effecting low-end torque, will keep the engine from breathing fully at wide-open throttle above 4000 rpm. The physical size for slip-on mufflers used on Harley-Davidson motorcycles is problematic. Large touring models tuck mufflers under the bags so their size can be bigger without looking out of place. These systems also use a crossover pipe that connects the left and right mufflers to increase muffler volume even further. In general, Dynas and Softails use smaller mufflers and suffer some power loss due to the smaller volume. Small volume slip-ons can be improved by modifying their internal baffles. Increasing the number and size of the holes in the baffles, or even making the baffles shorter, can reduce exhaust backpressure and increase gas flow helping top-end power. However, don't get carried away with these types of modifications as too much



Graph A shows a constructive wave interference, which results in a sound wave that's large and loud. Graph B is a destructive wave since the crests of the two waves line up and cancel each other out.


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exhaust gas flow will hurt bottom-end torque.

Exhaust mufflers do what their name implies—they muffle exhaust sound. This is accomplished by manipulating the exhaust sound waves as they bounce around inside the muffler. There are two types of sound waves inside a muffler: constructive and destructive. Constructive wave interference is when the crest of the wave matches the trough of the other wave and vice versa. The resulting wave is more powerful than the waves that make it up and the sound produced is quite loud. (See diagram on page 34.) A well-designed muffler tries to produce destructive sound waves. Destructive wave interference takes place when two waves have the same frequency, or pitch of exhaust note, and are in phase. When the waves are in phase, the crests of each wave are in alignment. Inside a muffler, where this takes place, the two wave amplitudes tend to cancel each other out, and the sound is greatly reduced. Muffler engineers use this concept to design chambered mufflers. This design affects higher frequency sounds while the lower frequencies, which have longer wavelengths are less affected. This is why chambered mufflers produce low frequency sounds, having a deep rumble exhaust note, but reduce overall sound.

Glasspack mufflers use a design where the exhaust gases pass through the center of the muffler inside a small tube. Fiberglass or stainless steel wool surrounds the tube and absorbs the exhaust sound as the gasses travel through the muffler. Glasspack mufflers are inexpensive to manufacture but do not reduce exhaust sound very much. Depending on their design, they can also increase exhaust backpressure, especially if they use louvers in the center tube that protrude into the exhaust gas flow. Glasspack mufflers require maintenance as the fiberglass will eventually fall apart and must be replaced. Fiberglass replacement is not too difficult providing the muffler can be dissembled. Welded glasspack mufflers need to be cut apart to replace the fiberglass—not a particularly fun job.

Engine Performance

ENGINE PERFORMANCE IS ONE OF THE factors that many riders state as the reason to change exhaust components. Performance is a relative term and can mean different things to individual riders. If you want your Harley to be faster than the next guy's, then cylinder head porting, high-compression pistons, big-bore kit, race camshafts, custom ignition and fuel mapping and, of course, a complete exhaust system with performance mufflers is probably the way to go. For most Harley-Davidson enthusiasts, engine performance means that you just want your motorcycle to run better than when it came from the factory. Better throttle response, acceleration, and a little more top end are all performance factors that work well for street riding.

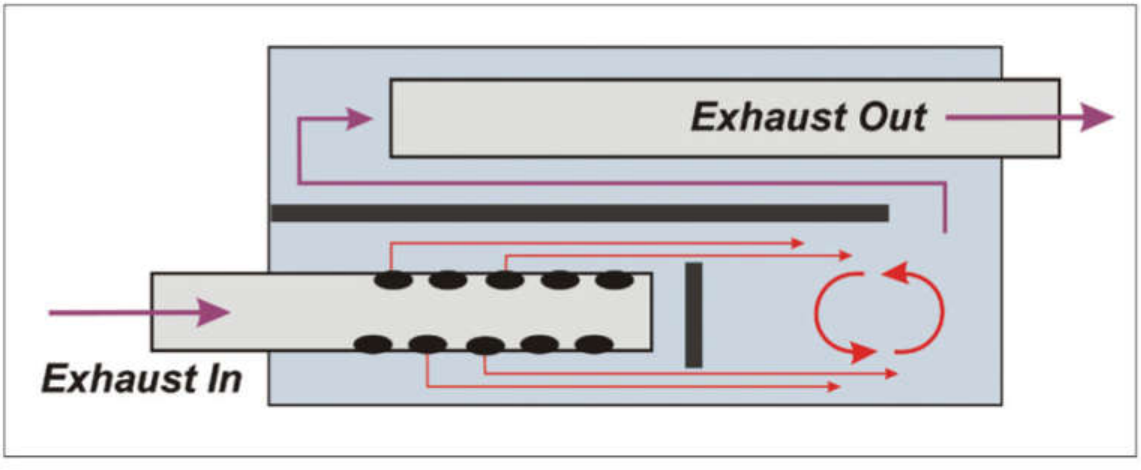
Changing exhaust components is just a part of modifying overall engine performance. Swapping out the stock muffler with an aftermarket slip-on is the easiest exhaust mod one can make and the least expensive. The next level of exhaust modification is to change the entire exhaust system. If you're contemplating changing mufflers or an entire exhaust system, a budget for fuel and ignition remapping, and even dyno tuning, may be part of the project, though it's usually not needed for just a muffler upgrade. Modifying the entire exhaust system, in most cases, will result in an increased flow of air in and out of the engine. In essence, if exhaust components are pulling more exhaust from the engine, then more air will be entering it. With the addition of more air, more fuel must be added in exactly the correct amount to maintain the correct air/fuel ratio. If you only change the exhaust and don't modify the fuel system, you will be disappointed in the results as the engine will run lean, or not have enough fuel for the amount of air entering it. This will cause flat spots during acceleration and other engine performance problems.

Many aftermarket exhaust manufacturers will provide advice on what fueling modifications need to be made for their products to perform well. Most companies that sell EFI fuel mapping controllers will offer fuel maps for various combinations of performance components including exhaust systems. For example, Dynojet's Power Commander and Zipper's Thundermax EFI systems are sold with access to thousands of dyno-tested fuel maps for just about any combination of engine performance parts -- especially exhaust mufflers and complete systems. "You get what you pay for" is true for EFI fuel controllers, as the better ones are constantly adding new fuel maps to their databases as new exhaust components are brought to the marketplace.

Sound

LIKE LOOKS, EXHAUST SOUND IS A MAJOR

continued on page 113



Mufflers use baffles (large black lines) to create destructive sound waves. On the lower right is a swirl chamber that reduces exhaust energy and sound.



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Victory Magnum vs. H-D Road Glide

Part III: Stability, handling, ABS brakes, fuel economy, and whether Victory or Harley is faster

IN THE LAST ISSUE, WE DISCUSSED FAIRINGS, SADDLEbags, the comfort factor, sound systems, and finishes. This time around we'll finish up by talking about stability, handling, ABS brakes, fuel economy, and whether Victory or Harley is faster.

Stability & Handling

THE FLT RUBBER-MOUNT FRAME WAS INTRODUCED IN LATE 1979. This was H-D's first real attempt at limiting how much engine vibration reached the rider. The improvement was dramatic and welcome. A new era of comfortable riding ensued with the FLHT, FXR, and Dyna models. However, the FLT/FLHT frame and rear swingarm lacked the rigidity needed during high-speed handling, especially when making sudden lane changes. Hence, the Harley sway continued to be an issue for 30 years. *Sway* describes the bike's adjustment to sudden lateral movement like a lane change at speed. Harley riders adjust to this settling movement as the bike propels forward.

I had to make a lot of adjustments when first riding the Victory Magnum, but the most difficult one was getting used to the rigidity and oneness of the motorcycle. There is no sway! In contrast, Harley's 1979-2009 rubber-mount arrangement — engine, primary system, transmission, and rear swingarm — must follow and adjust to the flexing frame's lateral movement. The 1999 FLT Twin Cams partially addressed this issue with the transmission being bolted to the engine. This was a substantial improvement, but not an overall solution. I naturally compensate for this sway and its effects as I power the bike through rapid lane changing. The older FLTs have the inertia of directional change. Therefore, more effort is required for steering compensation.

The Magnum has no sway characteristics because of its drivetrain design and supporting frame rigidity. Its aluminum frame design is superior, lighter, and provides much more rigidity, which allows it to easily adjust to rider handling demands. So what's the problem for an old and experienced Harley rider like me? I can't use the same amount of body force to change into another lane, as I might move the bike farther than I want. I have to relax more, using less force. This is my most difficult adaptation between bikes.

2009 brought the first dramatic improvement in the FLT frame structure. H-D has introduced much more rigidity into the motorcycle, constantly improving rubber-mounting components in tandem. The 2015 Road Glide handles like a dream compared to my 2007 Street Glide. It's a pleasure to ride. However, as good as it is, the Road Glide feels a bit hesitant relative to the Magnum's nimbleness. I don't want to denigrate the Road Glide because its improvements over what went before are dramatic. I am indeed impressed.

Doug Coffey, IMBBA master bike builder Level II, enthuses: "The Victory is incredible. I … go in search of some twisties. I'm no road racer, but I know good from bad in the corners. Power is smooth and I feel no vibration. There is no chassis vagueness when riding the crown of your lane such as we feel on our Rubber Glides. These [Victorys] track like they are on rails."

The Magnum has no sway characteristics. Its aluminum frame design is superior, lighter, and provides much more rigidity, which allows it to easily adjust to rider handling demands.



ABS Brakes

I CAN BE AN AGGRESSIVE RIDER. I MAKE myself slow down all the time. With that said, I'll relate a few experiences with braking. A Harley-Davidson Big Twin is a heavy bike. If at speed, the bike will often skid on its tires during panic


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braking, unless equipped with ABS brakes. ABS brakes will release either wheel from braking if it loses traction even for a millisecond. This allows the ABS computer to apply braking pressure only when the tires have traction. Skids and slides are thus avoided.

Many seasoned riders don't like ABS brake systems. These riders feel they can control the bike more efficiently in a braking situation. However, rider reaction times may take a second or two. This may allow the bike to start sliding out of control or even flip as you're about to see. ABS brakes make automatic and precise reactions in milliseconds. The road test for ABS braking is a panic stop with no warning. I was passing out on the Road Glide while riding the length of Denmark on my return ride. Unknown to me until the following week, I had a kidney infection on the verge of becoming septic. I kept fighting the sleepiness but couldn't control its effects as I also lost my depth perception. I passed out four times that I remember at 85 mph (137kph). Each time before an impending accident, I snapped to and barely avoided the imminent high-speed collision. Each time, the Road Glide's ABS brakes saved my bacon. If the bike had regular brakes, I would've been toast.

One time, the bike was angled slightly perpendicularly while heading straight into a truck's rear end. I jammed on the brakes. The Road Glide braked efficiently while holding course, but it was unsettling not being straight up. Of course, that was rider-error that the bike ably managed. A rear-ender was barely avoided.



Both H-D and Victory ABS brakes are stellar, especially when compared with what came before.

Another time was more serious. The brakes had no time to save me as I swerved around a flat bed truck's rear end at very high speed. I braked hard as I began my swerve. I felt the bike was about to flip at an angle from straight ahead as the front tire grabbed the pavement. Everything was happening too fast for my riding skills to help. It was a weird feeling knowing I was going to flip sideways and forward at high speed. Suddenly, the ABS released the front brake, saving the bike from flipping as I barely missed the truck. The new frame and rear fork introduced five years ago and the tightness of the new Road Glide assisted mightily.

Then there was the time I was riding a 2014 Road King across the terrible highways outside of Moscow on a 1,300-mile (2,090km) ride last year. Traffic was heavy and dangerous. I actually started to think I was a really good rider as I missed a few collisions by the skin of my teeth. Upon reflection, I realize it wasn't my skill at all but the excellent ABS brakes.

The Magnum is a little (but not much) lighter than the Road Glide, which will assist the braking. One time while riding the Magnum, I found myself in some traffic. A left-hander turned suddenly in front of me. There was no time to stop and no way out. My 2007 Street Glide with normal brakes would have done a perfect sideways slide into the car's side. I jammed on the Magnum ABS brakes. The Magnum tires grabbed the asphalt efficiently and purposefully. The bike didn't waver whatsoever. It was stable and felt comforting. It was a good feeling. The bike's engineering shone as its handling ably assisted the ABS brakes to an exceptional stop. I believe this a fair comparison because I had a passenger who made up for the 75-pound difference between the Magnum's and Road Glide's weights and then some, making the Magnum effectively heavier.

Both H-D and Victory ABS brakes are stellar, especially when compared with what came before. I would tip my hat to the Magnum braking as being slightly better.

Fuel Economy

I BEGAN COMPARING THE GAS MILEAGE of a few bikes on a long ride I took with some fellow riders. Egil's 2001 FLHT had the stock 1995-2001 Magneti-Marelli (MM) fuel-injection system. Another bike was running the best carburetor, an aftermarket Mikuni, while the third was using the best all-time H-D carburetor, the 1989-2006 CVH Keihin. I, of course, had the state-of-the art for Harley, the 2015 Delphi fuel-injection system. The worst fuel injection system I have ever encountered is the Magneti-Marelli. It leaks air, is too small for the engine, and has many irritating irregularities. It's the only fuel-injection system on a Harley that's inferior to both the Mikuni and CVH Keihin carburetion.

Gas mileage is the worst by far for the Magneti-Marelli Harley. The Mikuni and CVH Keihin are about equal, tying for second place while the Road Glide

THE PANHEAD

AFTER A FINAL NIGHT'S SLEEP IN BERGEN, NORWAY, IT WAS ABOUT a 20-mile ride to return the 2015 Road Glide to the good people at the dealership, Harley-Davidson Bergen (HDbergen.no). The guys there are friendly, knowledgeable, and speak good English. Egil decided to take his stripped-down hand banger (handshift), mousetrap clutch (spring-loaded actuator), dead man throttle (no throttle return spring), four-speed transmission-equipped, rigid-frame Panhead for the ride. The hand banger is designed for use with a foot clutch. That means, to go through the gears on the Pan, your left foot works the foot clutch and your left hand shifts the transmission. But since Egil's bike has a left-side handlebar clutch lever and jockey shifter, you can't do both using one (your left) hand. So Egil effortlessly operated the clutch as designed with his left hand and reached over with his right hand to bang the shifter to put the tranny through the gears. The surprise of the whole trip was that I couldn't keep up with this old Harley in traffic as Egil zipped in and out, white lining the hilly and twisting two-lane roads of Bergen. The kicker is that I've been riding Harleys and owned a Panhead before Egil was even born! Yes, the Road Glide has almost double the horsepower and two extra transmission gears over this old Pan, but not the maneuverability. ■







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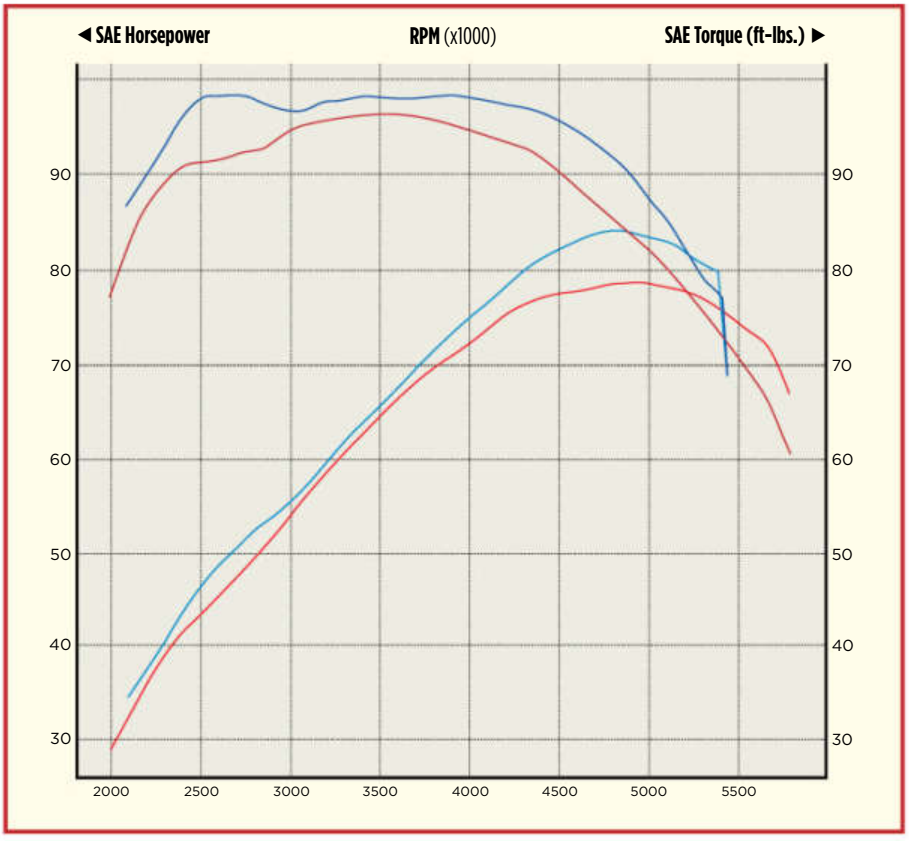
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Delphi fuel injection beat them all by a large margin.

Now let's look at my 2015 Victory Magnum. It's a more modern injection system than the Road Glide Delphi. The H-D heads were originally designed for carburetion, so the Delphi injection system must have a longer throttle body to reach between the heads to connect to the intake ports. The Victory has had fuel injection from Day One, so the system sits above the upward ports for true direct injection. That said, I haven't been able to notice which system offers better fuel efficiency by a seat-of-the-pants evaluation. I'm sure that one is superior by a small margin but not enough for a guy like me to really notice. I don't concentrate on fuel economy when I ride because I'm having fun and not counting pennies.

Which is Faster?

MY TECHNICAL MIND FELT THAT THE Magnum 50-degree engine, overhead cams, and four-valve head technology would surely be much faster. I was wrong. My actual seat-of-the-pants comparison revealed that the Magnum is slightly faster until approaching 87 mph (140kph). I also guessed that the Road Glide would have a higher top-end speed. Again, I was wrong. Doug Coffey offers anecdotal evidence. "Mine [Magnum] pulls ahead of 96" and 103" H-D baggers I ride with." Why not go by corporate horsepower and torque figures to make this determination? I have trust issues. I don't trust manufacturer-published horsepower and torque figures. They're also taken at the engine, not at the rear wheel where the tire meets the asphalt. Over 10 percent of engine power can be frittered away along the powertrain and through the clutch. Therefore, powertrain design and power-transfer efficiency can be a huge factor affecting motorcycle speed comparisons.



This dyno chart from Boz of Powerglide in Kent, England, shows the difference in power output of the stock 2014 Road Glide (red) I was riding and Boz's stock 2014 Victory Cross Country bagger (blue).

I turned to a trusted, knowledgeable friend, Boz, the tech guru of Great Britain for assistance. Boz operates out of Powerglides (Powerglides.co.uk) in Kent, England. Boz has ridden Harleys his whole life but also began riding a Victory Cross Country 16 months ago. He put both a stock RUSHMORE bagger and a stock Victory Cross Country bagger on his Superflow Cycledyn with eddy current brake and a load-cell dynamometer. Boz is particular, with an eye for mechanical detail, as many Englishmen are. Yes, he made all the factors equal, like tire pressure, clutch adjustment, and, of course, dyno settings. It's also good that both bikes were tested on the same dyno. His power-at-the-rear wheel testing shows the Victory's power output is slightly higher throughout the rpm range. The difference isn't enough to tell which bike is faster by riding, for sure. Therefore, my original seat-of-the-pants impressions aren't quite accurate.

Conclusion

SO, WHICH IS THE BETTER BIKE: THE Victory Magnum or the 2015 Road Glide? Neither. Each bike is slightly superior to the other in many small ways. Which bike is better for you is a personal choice. This isn't a politically correct answer. This is what I believe. I thought H-D was going to lose this comparison by a wide margin. It didn't. You're not making a mistake by choosing either bike. Harley has the history and the image, but the Victory costs less money!

Truth is, the competition between Harley-Davidson and Victory will certainly be good for you and me in the coming years.

Donny Petersen
DonnyPetersen.com

WHAT I DON'T LIKE ON THE MAGNUM

THERE ARE TWO SMALL ITEMS THAT I WILL HAVE TO ADJUST TO ON the Magnum. I find the awkwardness of the turn signal operation annoying. Will I adjust? I already am. Maybe my fingers should be longer or nimbler.

The rear master cylinder reservoir is round and clear plastic. I'm used to squarish H-D opaque reservoirs. The Magnum reservoir looks Japanese to me. I'm adjusting, but I must say the Magnum is more functional, since fluid level can be checked with a glance. This alone makes it a better and safer system, but my Harley-programmed mind has difficulty with the way it looks. ■


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LEARNING CURVE

Testing, testing, one, two, three





text by
greg williams

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IT WAS ONLY HOURS AFTER PALMING the keys of his slightly used 2007 Road Glide for the first time that Randy Cramer began tinkering with the engine. He wanted more power. Randy owns and operates Dakota V-Twin in Spearfish, South Dakota, and eventually the Road Glide became a test bed of hop-up tricks for the business.

"I just couldn't get the power out of the 96" motor I expected," Randy says. "We started with a baseline and then began modifying the engine to get the power I thought it should be making."

Randy figures the Road Glide's engine has been taken apart at least 25 times, the result of experimenting with numerous modifications. Eventually, the quest for more power led Randy to Dave Mackie of Dave Mackie Engineering in Ventura, California. Known for his high-performance V-twin headwork, Dave contributed many top-end pieces to the list of ingredients now found in Randy's engine.

What follows is Dave's recipe for the ultimate 96" engine. Strip the stock Harley-Davidson powerplant down to the cases to add a Timken bearing in the left case and weld the crank, with its 4-3/8" stroke. Then top the stock connecting rods with Dave Mackie 10.8:1 Mega-Sphere pistons. According to Dave, these pistons are made using only the best premium forgings to produce 20-degree full-dome slugs with dished centers.

Slip the pistons inside the Harley 96" cylinders that have been decked 0.030" at the bottom flange to increase compression and then bored to 3-7/8". That ups the engine's displacement to 103". Next, top off this package with Dave Mackie Mega-Sphere heads, which feature CNC-machined and highly polished ports. Dave performs a multi-angle and radius-valve job for the new titanium valves, and while the cylinder heads are in his shop for porting and polishing, each one is vacuum-tested to ensure proper valve seating.

Finally, install Dakota V-Twin special-grind cams, boasting .600" intake and .575" exhaust, and pushrods from COMP Cams. Fuel and air mixing chores are handled by a stock Harley-Davidson throttle body that's been modified.

Randy took his bike's throttle body apart to bore it from the original 48mm to 52mm before polishing and matching it to the intake runners. An Arlen Ness air cleaner caps the throttle body, while spent gases exit through a D&D







2-into-1 Boarzilla exhaust system.

So ends the performance recipe. After the engine package was finally nailed down, Randy simply enjoyed touring aboard his otherwise stock Road Glide. But when big-wheel baggers started to gain popularity among the custom bike crowd, he changed his tune because at about that same time, Randy's son Nick decided to build a 26" machine.

"I was really skeptical about big-wheel baggers, but when Nick said he wanted to do a 26" bike, I said I'd do a 23" machine because I wanted to see how they handled," Randy explains.

For this phase of the build, Randy stripped his Harley down to cut the neck to alter the steering head and get the clearance needed for the big wheel. With the frame and rear wheel set firmly in a jig, he went with a Hawg Halters Inc. (HHI) plus 7-degree neck replacement that he TIG-welded into place. The kit extends the frame 1" forward and 1" up. A set of HHI triple trees helps give the correct geometry for the bigger wheel, and Randy reports that the stock fork tubes slid into place with the HHI 1" extension at the top. The fork also features Arlen Ness Hot Legs and a single HHI six-piston caliper biting on a RC Components Drifter rotor that matches the 23" front wheel.

Road grime is kept at bay using a slightly modified Dirty Bird Concepts (DBC) fender that Randy trimmed to his liking. A DBC single headlight conversion fairing provides wind protection, and the headlight unit itself is from a stock Electra Glide. But all of the fairing gauges remain stock Road Glide items. For control, Randy installed a set of Paul

Yaffe 10" Monkey Bars, equipped with the stock switches inside Arlen Ness Rad III chromed housings. The rear suspension is stock.

DBC also provided the urethane gas tank overlay kit, which bonds directly to the original metal tank. The saddlebags have 4" extensions to match the DBC side panels and chin spoiler. Randy extended the D&D muffler by cutting and adding a new tail section that exits nearly flush with the right-side bag. After the mods, he sent the can and several spacers that he machined for it to Meclec Metal Finishing in Fresno, California, for chrome plating.

The rear fender, which covers a matching 16" RC Components Drifter wheel, is all steel from Klock Werks Kustom Cycles. Randy modified it for more contour. For this work, he used an English wheel and he made the 16-gauge steel filler panels to assure a custom fit. The taillight sits directly below the license plate, while the LED lights that function as blinkers and a brake indicator are located in the filler panels. The front signal lights are embedded for a flush fit within the fairing.

When it came time to fit a saddle, Randy was very particular about what he selected. He wanted the back of the seat to bolt directly, but discreetly, to the fender. He enlisted Danny Gray for the job, who sewed a small patch that lifts up to reveal a hole in the foam to access the mounting bolt at the very back of the black leather saddle.

Jim Brooks of Rapid City, South Dakota, applied the Harley-Davidson Mirage Orange Pearl paint to the body panels and tins. With the basecoat down, Tim Peterson of Flat Earth Art Company in Spearfish laid out the graphics, while Randy sprayed the black paint himself. There's also some gold leaf in the design that's accented with pinstriping by Tim.



"I've put about 40,000 miles on since I've finished it," Randy says. He's ridden to the East Coast twice and to the West Coast three times. "I don't show it, I build bikes to ride. What did I learn about the big wheel? That 23" wheel conversion helps a Road Glide handle better than a stock motorcycle," he says. **AIM**

TECH SHEET •

Owner:	Randy Cramer
Builder:	Randy Cramer, Dakota V-Twin, Spearfish, SD
Year/model:	2007 Harley-Davidson Road Glide
Chromer:	Meclec Metal Finishing Inc., Fresno, CA
Powdercoater:	Manufacturing Systems Inc., Belle Fourche, SD
Painters:	Jim Brooks, Randy Cramer
Pinstriper:	Tim Peterson, Flat Earth Art Company, Spearfish, SD
Colors:	Harley-Davidson Mirage Orange Pearl and black with gold leaf

POWERPLANT

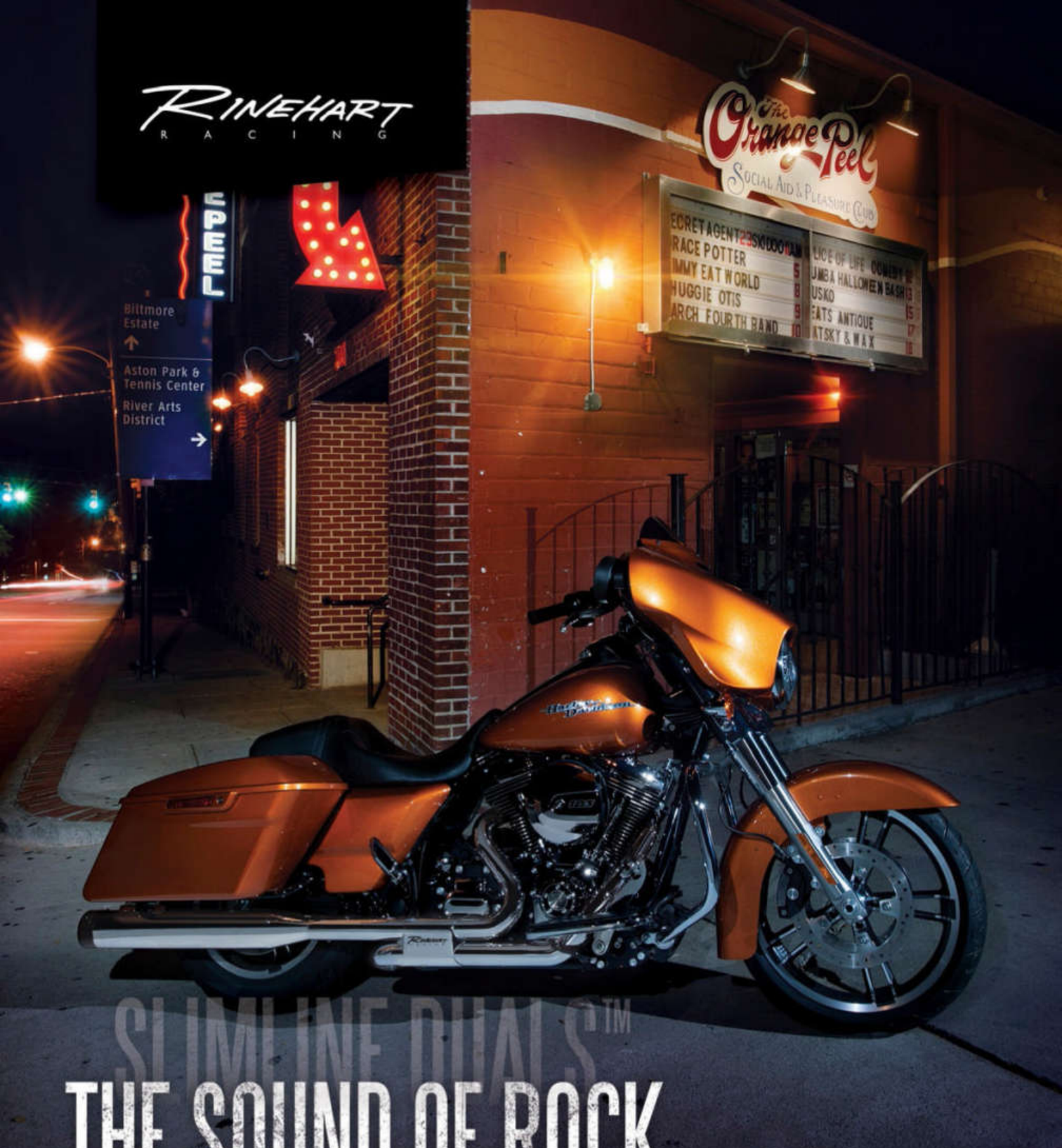
Engine:	2007 Harley-Davidson Twin Cam
Builder:	Randy Cramer, Dakota V-Twin
Displacement:	103"
Horsepower:	114
Flywheels:	Stock, welded
Balancing:	Dakota V-Twin
Cylinders:	Stock, bored 3-7/8"
Pistons:	Dave Mackie Mega-Sphere 10.8:1
Heads:	Dave Mackie Mega-Sphere
Cams:	Dakota V-Twin Special Grind, .600" intake and .575" exhaust
Valves:	Dave Mackie titanium
Rockers:	JIMS roller rockers
Lifters:	JIMS Powerglide II
Pushrods:	COMP Cams Quick Install
Carbs:	Stock/Dakota V-Twin throttle body
Air cleaner:	Arlen Ness
Exhaust:	D&D Boarzilla 2-into-1
Ignition:	Stock
Oil pump:	Feuling
Transmission:	2007 Harley-Davidson six-speed Cruise Drive
Final drive:	BDL belt with two teeth under-stock front pulley, stock rear pulley

CHASSIS

Frame:	2007 Harley-Davidson FL
Rake:	33 degrees
Stretch:	1" up, 1" out
Front fork:	Stock/Arlen Ness Hot Legs
Mods:	Hawg Halters Inc. 7-degree trees
Front wheel:	RC Components Drifter 3.50-23"
Rear wheel:	RC Components Drifter 5.00-16"
Front brake:	HHI six-piston caliper, single disc
Rear brake:	Stock
Front tire:	Avon 130/70-23"
Rear tire:	Metzeler MU/85-16"
Front fender:	Dirty Bird Concepts, modified
Rear fender:	Klock Werks Kustom Cycles/Dakota V-Twin
Fender struts:	Dakota V-Twin

ACCESSORIES

Headlight:	Harley-Davidson FL single
Taillight:	Dakota V-Twin, frenched
Fuel tank:	Dirty Bird Concepts
Handlebars:	Paul Yaffe's Bagger Nation 10" Monkey Bars
Seat:	Danny Gray
Pegs:	Roaring Toyz
Speedo:	Stock
Dash:	Dirty Bird Concepts
License bracket:	Klock Werks Kustom Cycles
Mirrors:	Arlen Ness
Hand controls:	Arlen Ness Rad III
Foot controls:	Roaring Toyz
Levers:	Arlen Ness Rad III



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2015 H-D Heritage Softail Classic

Classic in more than name

TRUE CONFESSION: I BECOME FIDGETY, EVEN A little anxious, every summer because this is the time of year when The Harley-Davidson Motor Company announces its next-year models. Although I'm anxious to see what's new on the docket for the upcoming 12 months, I'm like a nervous Nellie until I know for certain that the FLSTC Heritage Softail Classic has also made the cut. After all, this vintage-looking bike has been a player since 1987, and you have to wonder just how many more years are left in the old gal.


HARLEY-DAVIDSON

This summer, my money says the FLSTC continues to wear the Bar & Shield badge for 2016 because this bike embodies the essence of Harley's heritage, the motivational force behind practically every sale of a Harley-Davidson motorcycle. You want to slip into the boots of the quintessential American biker? Then buy a Harley-Davidson. And if you really want to look the part of a mid-20th-century rider, then buy yourself a Heritage Softail Classic, a bike that was made to look like it rolled off the 1949 assembly line in 1987 … and 1988 and 1989 and right up through today.

But we know that looks and nostalgic appeal alone can't sustain a place in Harley's vaunted lineup for 28 years and counting. A bike also must perform, and to that end, the 2015 FLSTC checks in, as it has since 1987, with all of the right moves. Its 25-1/2" seat height and conservatively positioned foot controls and handlebar, backed by a detachable windshield, allow for all-day comfort. The Twin Cam 103" engine generates a peak torque of 95.2 ft-lbs. at a moderate 3000 rpm while delivering around 40 mpg (Harley and the EPA settled on 42 mpg for sales propaganda), and internal counterbalancers mean a smooth ride at any speed. And new for 2015 — and as found on the other Softails in this year's lineup — the FLSTC has a few improvements to the braking system that help deliver even better performance when slowing and stopping the 730-pound (claimed dry weight) motorcycle.

In fact, let's stop right here to address that new braking







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system. Atop the semi-apehanger stainless steel handlebar sits a re-engineered master cylinder that feeds fluid to a new front caliper with four larger coated pistons for easier brake/lever modulation. The four pucks bite down on a slightly larger-diameter front rotor, too — 300mm compared to 292mm of old — and the sum total is intended to reduce brake lever pressure, especially at full lock under panic-stop situations.



Under normal riding situations, you might not notice the reduced lever action; it's so subtle. And the new front brake continues to deliver pretty much the same progressive feedback that Heritage riders have enjoyed for years. Slowing down the bike requires only a smooth, gentle tug on the right lever, with similar pressure from your right foot to modulate the rear brake pedal. ABS assures that the retro-looking bike remains upright under panic-stop conditions, and for the record, our 2015 Heritage took 31' to completely stop from 30 mph. By comparison, the 2015 Slim that we tested earlier this year stopped in 27' from an observed 30 mph. The big tires on both bikes help transfer much of the braking force to the pavement, and, no doubt, the Slim's shorter stopping distance is attributable to its lighter overall weight — 672 pounds to the Classic's 730.

BACK ON THE ROAD, the Heritage Softail Classic remains the same no-nonsense motorcycle that has kept it in the lineup all these years. A detachable windshield means you can enjoy the ride behind the cone of silence or, in a matter of seconds, strip the bike of its ungainly piece of Lexan for in-your-face riding fun. The leather-like soft saddlebags offer adequate storage space, although they're not quick-detachable, weatherproof, or lockable. Riding two-up? Then your passenger will enjoy the padded backrest whether it's for a

TECH SHEET • Heritage Softail Classic

Length:	94.7" (2405mm)
Unladen seat height:	27.2" (690mm)
Ground clearance:	5.2" (131mm)
Rake:	31 degrees
Trail:	5.8" (147mm)
Wheelbase:	64.4" (1635mm)
Engine:	Air-cooled, Twin Cam 103B (1690cc) with rigid-mounted, counterbalanced, black powdercoated powertrain with chrome covers
Compression:	9.6:1
Fuel system:	Electronic Sequential Port Fuel Injection (ESPFI)
Transmission:	Six-speed Cruise Drive
Front tire:	Dunlop Harley-Davidson Series D402F MT90B-16" 72H
Rear tire:	Dunlop Harley-Davidson Series D401 150/80B-16" 71H
Fuel capacity:	5.0 gallons (18.9L)
Oil capacity:	3-1/2 quarts (3.3L)
Shipped weight:	730 pounds (331kg)
Gross Vehicle Weight Rating (GVWR):	1,160 pounds (526kg)
Front brake:	ABS, four-piston caliper, 11.80" x 0.20" solid, uniform expansion rotor (300mm)
Rear brake:	ABS, two-piston caliper, 11.50" x 0.23" solid, uniform expansion rotor (300mm)
Exhaust system:	Chrome with dual staggered shorty mufflers
Front forks:	41.3mm, telescopic, "beer can" covers
Rear shocks:	Hidden, horizontally mounted, coil-over
Front wheel:	Chrome (optional), steel laced with chrome hub covers; 3.00-16"
Rear wheel:	Chrome (optional), steel laced with chrome hub covers; 3.00-16"
Handlebars:	Ergonomic stainless steel, classic touring
Colors:	Vivid Black, Brilliant Silver Pearl, Morocco Gold Pearl, Superior Blue, Mysterious Red Sunglo/Blackened Cayenne Sunglo, Amber Whiskey/Charcoal Pearl; custom, Black Magic
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jaunt across town or an all-day ride to the state line.

I myself am partial to the FLSTC's seating position up front. Over the years, Harley has fine-tuned the Classic's rider triangle; today's handlebar positions your hands at about chest level. The half-moon footboards lend to the bike's nostalgic appeal, and the two-piece saddle offers the right combination of padding and full support so you never really tire yourself while the fuel tank drains its 5-gallon contents into the electronic fuel injection. I've often said that this is a motorcycle I could, at a moment's notice, hop on and ride coast to coast. I still sit behind those words, which is one major reason why I worry that Harley might one day drop this model from the lineup.



REGARDLESS OF WHAT'S IN STORE FOR THE FLSTC, there's no question that its styling addresses the past. Gobs of chrome-plated parts, enhanced with classy traditional colors and subtle pinstripes, underscore the Heritage Softail Classic's goal of bringing yesteryear to the present. And just to remind you how far the motorcycle industry has come since 1949, you can order your FLSTC with stylish chromed aluminum wheels that are wrapped with tubeless wide-whitewall tires. And don't worry about having to share legroom with a kickstart lever; this bike has electric start, something practically unheard of 60-some years ago.

If you're looking for a basic, straightforward motorcycle that can grind out the miles over long stretches of highway and back roads or if you're in search of a do-everything bike for putting around town, the FLSTC might be for you. Now for the enthusiasts who hold the Heritage Softail Classic close to their hearts, let's hold our collective breath while Harley-Davidson unveils the lineup for 2016.

Drum roll, please. **AIM**

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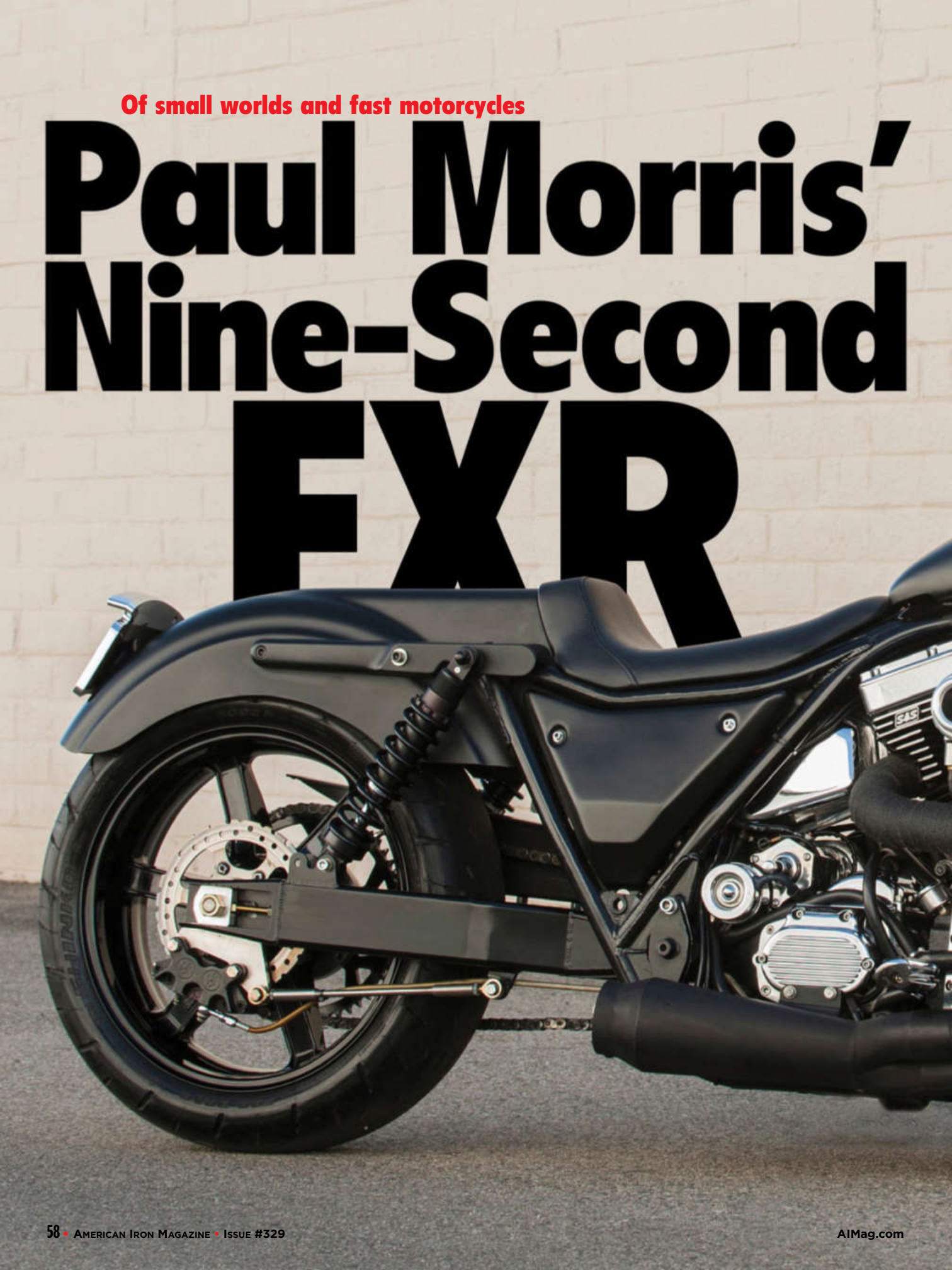
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Of small worlds and fast motorcycles

Paul Morris' Nine-Second FXR





text by
tom johnson

photos by
markus cuff

"IT'S ALL YOUR FAULT, YOU GAVE ME THE horsepower bug," Paul comments in an e-mail exchange about his nine-second land rocket. As it turns out, we had met through correspondence nearly 15 years ago as members of S&S Cycle's 11 Second Club. S&S founded the club to acknowledge the accomplishments of its customers, like Paul, who posted 11-second quarter-mile times with S&S-carbed streetbikes. Rules require that member bikes be fully licensed, use DOT-legal street tires, and have charging systems. Two modifications are forbidden: wheelie bars and air shifters. For those not in the know, there's more to drag racing than is typically thought, with vertical torque curves and triple-digit horsepower virtually useless, even a handicap, without a skilled rider behind the handlebars.

Paul can vouch that, for novices, posting that first 11-second elapsed time won't necessarily be easy. But, obviously, with his monster FXR having clocked a blistering-hot 9.86 seconds at 135 mph, earning him membership — one of only nine worldwide — in S&S' exclusive 9 Second Club, he's come a long, long way. (In comparison, the 11 Second Club has 300 members, the 10 Second Club has 60.) The problem with drag racing, as Paul will also confirm, is that chasing ever-lower elapsed times can become an obsession with endless challenges along the way, especially for those who, like himself, remain committed to the streetbike principles laid out in club rules. A common pitfall for many is that, though their motorcycles can still be ridden on the street, powertrain and chassis modifications tend to become increasingly more radical. As a result, riding them off-track becomes much like repairing a flat tire with pliers and a screwdriver: possible, but not much fun.

Paul was determined to avoid the above scenario after a frustrating detour or two in that direction. He created his land rocket from what he terms a "clean canvas," a squeaky clean 1991 FXR for which he traded his equally clean '99 Dyna. Why the older model? Though staunch FXR fans claim less weight and superior chassis rigidity when comparing the two, Paul simply likes that the '91 sits lower than his Dyna, which he feels makes it perfect for the day-in, day-out, nine-second street cruiser he wanted. With 85 hp on hand as purchased, the FXR was undoubtedly capable of low 12s or high 11s from the beginning, but Paul's goal was to go quicker and faster. That brings us to the '91 as it is now; low, light, and lean, it's a bona fide Harley-based streetbike with the acceleration of a purpose-built dragbike.

For just the right engine, he turned to Star Racing, a performance shop with six NHRA championships to its credit, an impressive number, considering that the NHRA is to drag racing what NASCAR is to left-turn racing. Star supplied a 126" S&S two-cam engine, unusual among V-twins because its 4.375" bore outreaches the 4.187" stroke, making it over-

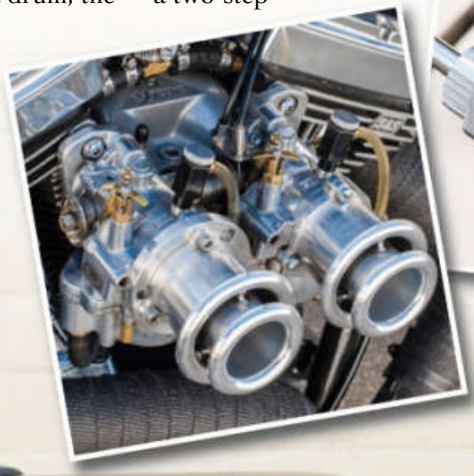




square. Advantages of the over-square configuration include reduced vibration and a higher rpm potential, the latter being crucial in all-out engines with sufficient intake and exhaust flow to support it. With S&S B2 heads modified by SA Racing, twin Super G carbs tricked-out by XXX Carburetors, .675"-lift S&S cams, and a badass 2-into-1 Guppy exhaust system from JBV Racing, the 126 dynos 172 hp!

The equally important transmission consists of a Delkron case fitted with back-cut R&D gears that were MicroBlued for friction reduction. Other special features include a taller-than-normal "SP" first gear and BAKER N1 shift drum; the latter kills the ignition for a fraction of a second during shifts, allowing the Pingel electric shifter to breeze through the gears with no time-consuming clutch use whatsoever. Supporting parts with starring roles include a two-step





Barnett lock-up clutch and Daytona Twin Tech ignition, also a two-stepper. By softening power delivery off the line and advancing it at a preset rpm, the two work in conjunction, allowing Paul to dump the clutch when the time comes, no pussyfooting required. As stated, the chassis centers around a 1991 FXR frame, which Paul equipped with a 6"-over Trac Dynamics swingarm for wheelie control and, here's that word again, *rigidity*. Fitting the bike's sleek "no compromise" look perfectly, the fork and wheels are Buell XB parts.



What's next for Paul and his nine-second FXR? Retirement from racing, in all likelihood, thanks to the continuing disappearance of drag strips in his SoCal homeland, with comfortable cruising and a few shows in his current itinerary. Additionally, Paul feels he has attained that optimal balance of performance and practicality he was looking for and accomplished everything he wanted to at the track, so why not call it a day?

Hmmm … comfortable cruising and bike shows. If that's Paul's idea of a retirement plan, I've only got one question. Yep, you got it, where do I sign up? **AIM**

TECH SHEET

Owner:	Paul Morris
Builders:	Paul Morris and Crew Chief Mike
Year/model:	1991 Harley-Davidson FXR
Time to build:	Five years
Painter:	W.W. Custom Cycles & Painting, North Hollywood, CA
Color:	Flat black

POWERPLANT

Engine:	S&S Cycle/Star Racing
Builders:	Crew Chief Mike and SA Racing
Horsepower:	172
Flywheels:	S&S Cycle 4.187"
Balancing:	S&S Cycle
Connecting rods:	S&S Cycle
Cylinders:	S&S Cycle 4.375"
Pistons:	CP
Heads:	S&S Cycle B2, modified by SA Racing
Cams:	S&S Cycle Easy Start .675"-lift
Valves:	S&S Cycle
Rockers:	S&S Cycle
Lifters:	S&S Cycle Premium
Pushrods:	S&S Cycle
Carbs:	S&S Cycle Super Gs, modified
Air cleaner:	Novi-Tec stack
Exhaust:	JBV Racing Guppy 2-into-1
Ignition:	Daytona Twin Tec
Coils:	Daytona Twin Tec
Wires:	Accel
Regulator:	Accel
Primary cover:	Delkron inner/Barnett outer
Transmission case:	Delkron
Gears:	R&D Motorsports with SP first gear
Mods:	BAKER Drivetrain N1 shift drum, back-cut, MicroBlue coating
Clutch:	Barnett Scorpion six-finger lock-up
Primary drive:	Chain with solid sprocket and Bandit tensioner shoe
Starter:	Spyke

CHASSIS

Frame:	1991 Harley-Davidson FXR
Front forks:	Buell XB
Mods:	Steering dampener
Swingarm:	Trac Dynamics, 6"-over
Front wheel:	Buell XB
Rear wheel:	Buell XB, offset sprocket by Kosman Specialties
Front brake:	Buell
Rear brake:	Performance Machine
Front tire:	Bridgestone 110/70-17"
Rear tire:	Shinko 190/50-17"
Front fender:	Buell XB
Rear fender:	Fab-Tech

ACCESSORIES

Fuel tank:	Aluminum, custom handmade
Handlebars:	Stock, narrowed
Seat:	Nacho's Auto Upholstery/Fab-Tech pan
Chain guard:	Tiger Racing Limited, modified
License bracket:	Custom Chrome
Mirrors:	Arlen Ness
Hand controls:	Joker Machine
Foot controls:	Stock/Pingel electric shifter
Levers:	Pingel two-step clutch lever

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SOUTH POINT

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2015 Dennis Kirk Patriot Ride

Honoring America's fallen heroes



IT'S STRANGE TO THINK THAT THE SIMPLE ACT OF riding a motorcycle can have a profound effect on certain families. Usually, we ride our bikes because it's fun, but sometimes we saddle up for something more meaningful. Case in point: the Patriot Ride, which celebrated its 10th anniversary this past summer. The Patriot Ride's mission is simple, too, and that's to show support, solidarity, compassion, and love for our nation's Gold Star families — the families who've lost loved ones in combat.

This year's Patriot Ride, sponsored by iconic Minnesota parts distribution company Dennis Kirk, saw a record 3,350 motorcyclists embark on the ride. About three times that number showed up for the afternoon portion of the event, which started early morning on June 20 at the new Key Air facility in Blaine, Minnesota. Arriving riders were greeted by the local National Guardsmen wearing their camouflage uniforms, and they were accompanied by a massive American flag draped proudly from the raised ladder of the local fire department's truck. The Patriot Ride is indeed an accurate name for this event.

The early part of the day consisted of separating the registered motorcycles into five waves for a 50-mile loop of












GOOFY








Indian

the area. The ride returned to Key Air for the duration of the event. The first group of riders was led by Gold Star family members who gathered in a special staging area right out front, making this day of remembrance a little easier for them. Each contingent was escorted front and rear by the Patriot Guard Riders, a group that does incredible work not only by shielding families from ill-wishers at military funerals, but also lending a helping hand whenever veterans' causes need their assistance.

Onlookers lined both sides of the street for the entire ride, waving American flags and holding patriotic signs of support for the Gold Star families. A full police escort stopped traffic at each intersection so that the parade of bikes remained uninterrupted. It should also be noted that the location, entertainment, police assistance, and T-6 Thunder flyover were provided free of charge for the Patriot Ride, emphasizing the full support by the local community.

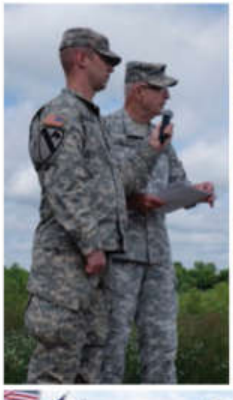
After the final bike returned to Key Air, emcee Brian Zepp, a veteran and biker, announced over the loudspeaker that the program had officially begun. The morning program included the ceremonial raising of the flag, singing of the National Anthem, Navy SEAL American flag parachute jump, a keynote speech by Major General Richard C. Nash who heads the Minnesota National Guard, and more.

The afternoon program consisted of Miss Minnesota singing *God Bless America*, a keynote speech by Colonel Greg Thingvold, an Everyday Soldier speech by Marcus Kuboy, and a Wounded Warrior Project tandem parachute jump. One of the most memorable and touching moments was when a Gold Star family was invited on stage to talk about their fallen warrior. Their words, in a roundabout way, showed support for all the Gold Star families in attendance. The traveling Bell of Honor was rung the traditional seven times to honor the fallen warriors, and that solemn ceremony was followed by the playing of Taps, a gun volley, and the ceremonial folding of the American flag. The flag, which had flown high all afternoon, was proudly presented to the family who had shared their story on stage.

While this event is a day of remembrance, it's also a day for the family, friends, and comrades of fallen warriors to support one another and to rally around their common love of motorcycles. We at *AIM*, along with our sister publication *Motorcycle*, knew we could help in that department, so we partnered up with local legend Donnie Smith to put on a ride-in custom bike show for those in attendance. Many incredible motorcycles of all makes showed up, some of them military themed. Donnie and other local pro builders brought out their latest and greatest bikes for the crowds to enjoy as well. We featured one of the cool customs from the show on page 84.

While the Patriot Ride is about veterans and families coming together to enjoy a day of two- and three-wheeling fun, no one forgot the real reason that we had gathered. I encourage anyone in the area, motorcyclist or not, veteran or not, to experience the Patriot Ride for yourself to witness the overwhelming show of support for the families who lost loved ones defending our nation's freedoms. Their sacrifice makes it possible for the rest of us to say without reservation, "Ride free." Mark your calendar for next July. See ThePatriotRide.org for date and information. **AIM**















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Speed Foundry's Kyle Shorey builds one killer Vic for Sturgis!

Mystery Victory



text by
tyler greenblatt

photos by
alex rydlinski



What would you do if Victory

Motorcycles dropped off a brand-new 2015 Gunner on your doorstep and told you to do whatever you had to do to turn it into a "cool bobber"? And that's it. No explanation as to why and entirely without guidelines. Sounds pretty freakin' awesome, doesn't it? Our good friend and pro-builder Kyle Shorey of Speed Foundry of Texas outside Dallas had that exact thing happen to him last january. The only bit of information he had was to bring his finished creation to the 2015 Sturgis Motorcycle Rally. Slightly confused but excited about the blank canvas before him, Kyle accepted the challenge. His only question after receiving the bike and studying it was "Can I cut the back of the frame off?" The answer from Victory was "yes," and Kyle knew he was in business. Luckily, he invited *AIM* along for the ride, and we covered the entire build process in issues #325, #326, and #328 to see exactly how a pro builder's vision becomes reality.

Without any further requirements (in case you're counting, that's zero in total) from Victory regarding the vision of the build, Kyle began removing any and all parts that wouldn't be reused. One such part is the entire back half of the frame. The wide, permanently attached fender struts didn't give Kyle a whole lot to work with. While effective in stock form, the rear section doesn't lend well to a traditional, trimmed-down bobber. The Dumpster filled up fast. He left most of the frame, engine, transmission, rear belt, and wiring harness. Then came time for the fun part: turning this stock muscle cruiser into a custom bobber with that signature Speed Foundry look and attitude.

Having never worked with a Victory before, Kyle's first step in the design process was to create a roller that accentuated the Gunner's wide frame and performance dynamics. Then he'd be able to come up with a completely fresh concept for the body and accessories. In his own words, "I use springers on everything." So he started with Speed Foundry's own springer front end. Kyle designed the made-in-the-US front end specifically for late-model Harley Softails. It has a beefier feel than others on the market to flow more effectively with the width and overall size of modern Twin Cams. By default, it also happens to fit perfectly with the girthy Gunner after some triple tree modifications made it a bolt-on. "I needed a fatter front end. A lot of guys are doing small round ones, but they're all real small and don't work with Big Twins; they're good for a Sportster or a little bobber," Kyle says. "When I got this project I said, 'Let's put one on there and see if we can make it work there, too.' It took a little bit of work but we got it figured out."

Rolling stock was an easy decision for Kyle, and he came up with a combination that blends the Victory's modern feel with some classic bobber style. For the front, he used a 3.00-23", 60-spoke Ride Wright wheel, while the custom rear



section is designed around a wide 8.50-18", 60-spoke Ride Wright. Both wheels feature gloss black rims and hubs with stainless steel spokes. Ride Wright brake rotors and pulley were also used, with a quality HHI black caliper up front. A 130/50-23" Metzeler 880 Marathon Ultra tire wraps the front wheel while a matching 240-18" goes on the back. "This is kind of a fat bike," Kyle says, noting the dual backbone frame and wide powertrain. "They're too fat for that skinny tire, so you gotta have that wider tire. The chassis on the Gunner and are the same, just a different swingarm, which bolts right on, no modification or anything. Then, of course, I try to use Metzelers on as many of these road bikes as possible."

With the stance set up exactly the way he wanted, Kyle started to conceptualize what he wanted the bodywork and overall style to look like. He realized early on that in order to create a gas tank that would fit the updraft air intake and the wide dual backbone, he'd have to use the stock gas tank's underside center channel and build his custom tank off that. Kyle succeeded in giving the gas tank that traditional bobber feel, but with a modern take to match the edgy Victory powertrain. Remember those fender struts that had to be cut off? One of the coolest parts on this Gunner has to be that floating rear fender that hugs the 240 Metzeler and is mounted to the swingarm via custom struts and a bracket.

Kyle's vision made a huge stride forward when he mocked up one of Speed Foundry's bolt-on custom seats for Softails.



The dimensions work with the Gunner's lines, but he had to come up with a way of mounting it on the Victory's very different frame. The seat tucks neatly to the frame and flips up in the back in such a way that further accentuates the separation of the rear fender and the rest of the motorcycle. Kyle used Speed Foundry's custom footpegs, again, designed for Softails, but they actually fit perfectly onto the Gunner foot controls. The handlebars are also his own creation and will be available on his web site in both standard form and this riserless setup for springers. For the headlight, Kyle went with a PIAA spotlight instead of his 5-1/2" one with the brass trim ring. The exhaust system is a combination of Kyle's headers and the stock mufflers chopped down, which fits the bike's bobber persona perfectly.

If you're at all familiar with Victorys, and especially if you own one, you've no doubt noticed that incredibly sleek air cleaner peeking out the front of the gas tank tunnel. Kyle fabricated a bracket that bolts up to the dual-throat updraft throttle body and uses a ram-type, 2-1/4" intake tube to mount the Arlen Ness air cleaner out front to gather as much clean air as possible. Since he retained the stock gas tank's tunnel and the way it sits on the frame, the ram-air kit will fit a stock bike, too, and make a massive improvement over stock. "The stock one is a big plastic airbox, it's awful," Kyle says. "I actually had to cut it apart to get it out of there!"

The public response to Kyle's build has been incredible, and the custom Gunner garners questions and eyeballs wherever it goes. "Everyone that's seen it has really liked it," Kyle says. "When I went to Colorado, dudes were off of their chairs to check it out before I even got off the bike. Everyone who's seen it says 'holy crap' I can't believe that's a Victory!"

Finally, the 75th Sturgis Rally came about, and Kyle hauled the custom Victory up to South Dakota as requested for display. However, this build also served a second purpose, one that Victory enthusiasts might be a little excited about. Most of the parts, including the front end, rear fender, seat kit, and eventually that insane air intake setup are going to be available as bolt-on kits directly from Speed Foundry. "I've had a couple people say they're gonna buy them if they can do that to them, so that's pretty cool," Kyle says. "I'll definitely do another if somebody wants one, I actually have someone coming in to do the seat kit and a couple other things, and he hasn't even seen this one yet. After he sees this, I'll probably be doing one for him."

Victorys have always been known for high-performance cruisers and tourers, and as great as those are, there hasn't been many all-out customs like this one built. Certainly none to this degree anyway. "I rode it on a super switchback road in Colorado and was dragging pegs and everything, and I never do that on Harleys," Kyle says. "I put a quote on my Instagram that said if you want a well-handling, well-built bike, go buy one of these things. I haven't gotten on anything since I finished it!"

Kyle accomplished the goal of showing how truly badass a Victory can be using Speed Foundry's signature bobber style matched with a Gunner's signature performance. Kyle says, "It's like riding a sportbike, which is surprising after I molested it." **AIM**

TECH SHEET •

Owner:	Kyle Shorey
Builder:	Kyle Shorey, Speed Foundry of Texas, Dallas
Year/model:	2015 Victory Gunner
Time to build:	Five months
Painter:	Kyle Shorey
Color:	Vivid Black

POWERPLANT

Engine:	Victory Freedom 106
Builder:	Victory
Displacement:	106"
Flywheels:	Stock
Balancing:	Stock
Connecting rods:	Stock
Cylinders:	Stock
Pistons:	Stock
Heads:	Stock
Cams:	Stock
Valves:	Stock
Rockers:	Stock
Lifters:	Stock
Pushrods:	Stock
EFI:	Stock
Air cleaner:	Arlen Ness
Exhaust:	Speed Foundry of Texas/stock mufflers, chopped
Ignition:	Stock
Coils:	Stock
Wires:	Stock
Charging system:	Stock
Primary cover:	Stock
Transmission:	Stock six-speed
Primary drive:	Stock chain
Final drive:	Stock belt

CHASSIS

Frame:	2015 Victory Gunner, modified
Front forks:	Speed Foundry of Texas springer
Triple trees:	Speed Foundry of Texas
Swingarm:	Stock
Front wheel:	Ride Wright Wheels 60-spoke 3.00-23"
Rear wheel:	Ride Wright Wheels 60-spoke 8.50-18"
Front brake:	Hawg Halters Inc. caliper/Ride Wright Wheels rotor
Rear brake:	Stock
Rear pulley:	Ride Wright Wheels
Front tire:	Metzeler 880 Marathon Ultra 130/50-23"
Rear tire:	Metzeler 880 Marathon Ultra 240-18"
Rear fender:	Speed Foundry of Texas
Fender struts:	Speed Foundry of Texas

ACCESSORIES

Headlight:	PIAA spotlight
Taillight:	Speed Foundry of Texas
Fuel tank:	Speed Foundry of Texas
Handlebars:	Speed Foundry of Texas
Risers:	Speed Foundry of Texas
Seat:	Speed Foundry of Texas
Pegs:	Speed Foundry of Texas
License bracket:	Speed Foundry of Texas
Hand controls:	Hawg Halters Inc.
Foot controls:	Stock
Master cylinder:	Hawg Halters Inc.
Clutch perch:	Hawg Halters Inc.


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2016 INDIAN LINEUP

The war bonnet leads the charge into '16

INDIAN MOTORCYCLES ARE POPPING UP MORE AND more frequently on America's local roadways and at rallies all across the country. With a high content of standard features, a competitive price point, and a strong dealership network, Indian has certainly proved its viability in just a few short years of being in showrooms. The brand has grown in its model diversity and target audience every year since its official Polaris relaunch in 2013.

2016's biggest news was the release of the Chief Dark Horse in early 2015 as a midyear model. Indian ventured outside its brand image of bikes with a broad stance, lots of style, and tons of chrome to take a chance on its first blacked-out offering. I reviewed the Dark Horse in issue #327, and its lighter weight lends to a remarkably well-handling chassis while the Thunder Stroke 111 can make it get up and go that much quicker. The style is unmistakably Indian, but the attitude is raw and aggressive, and one can only hope that Indian has more from wherever the Dark Horse came from.



Other big news for 2016 is that the high-performance, water-cooled Scout gets ABS when ordered in Indian Motorcycle Red. A low center of gravity and seat height along with an impressive lean angle and high-winding, 100 hp powerplant make the Scout awkwardly fun to ride. By that I mean the Scout feels like a typical cruiser when you first sit on it, but it's incredibly nimble in tight turns and easy to control shooting out of the apex.

The Chief Classic has transitioned into somewhat of a "good twin" position for 2016 when compared to its "evil twin," the Dark Horse. Lighter-weight, cast black wheels reduce the unsprung weight, which allows for better acceleration and smoother suspension control. Also new is the Pearl White paint scheme, the only paint available on the Classic, and a lower $17,999 price tag. Noticeably absent on the thousand-dollar-cheaper Classic are the 2015 model's headlight-flanking spotlights and passenger pillion/pegs. With the Pearl White paint and all the chrome Indian enthusiasts love, this good twin might appear as such at first, but its bad side is certainly evident out on the pavement.

The Chief Vintage remains on par with the 2015 model, except for a $200 price boost for the two-tone paint schemes, a style Indian has claimed to be a major highlight to its heritage over the last 80 years. And everyone is sure to rejoice as the Vintage lives up to its name as the embodiment of the original Indian's spirit. Fringe, leather saddlebags, spoked wheels, and whitewall tires harken back to Indian's glory days of the 1930s and '40s.

The highway-hauling Chieftain and Roadmaster models also remain basically the same for 2016 but with the addition of some new paint options. The Chieftain, the cool cruising, fully faired bagger of the lineup, gets an exciting new Silver Smoke paint option that has a matte texture and a new dark gray Indian war bonnet on the gas tank. A figure of $200 gets tacked onto the two-tone paint scheme for 2016. The all-out, touring-minded Roadmaster spares nothing when it comes to ferrying two people and their stuff as many miles as needed to get them wherever they're going safely, comfortably, and with huge smiles on their faces. A bunch of new paint schemes are available for the 2016 model including Blue Diamond, Springfield Blue and Ivory Cream, and Storm Gray and Thunder Black. The capable Roadmaster sees a $1,000 base price increase this year, as well as an additional $200 bump for the two tones, just like its stablemates.

With some slight changes for 2016, Indian seems to have found its niche and is now making fine adjustments to better suit its consumers and target new ones.

TOURING



ROADMASTER •

Length:	104.6" (2656mm)
Seat height:	26.5" (673mm)
Ground clearance:	5.5" (140mm)
Rake:	25 degrees
Trail:	5.9" (150mm)
Wheelbase:	65.7" (1668mm)
Dry weight:	897 pounds (408kg)
GVWR:	1,385 pounds (630kg)
Engine:	Air/oil-cooled, 49-degree Thunder Stroke 111 V-twin (111"/1811cc)
Peak torque:	119.2 ft-lbs. at 3000 rpm
Bore:	3.976" (101mm)
Stroke:	4.449" (113mm)
Clutch:	Wet, multiplate
Compression:	9.5:1
Fuel system:	Electronic fuel injection, closed loop, 54mm bore
Exhaust system:	Split dual with crossover
Transmission:	Six-speed constant mesh
Primary drive:	Gear with wet clutch
Final drive:	Belt, 152 tooth
Front tire:	Dunlop Elite 3 130/90B-16" 73H
Rear tire:	Dunlop Elite 3 180/60R-16" 80H
Fuel capacity:	5.5 gallons (20.8L)
Oil capacity:	5.5 quarts (5.20L)
Charging system:	42 amp max output
Battery:	12 volts/18 amp hours, 310 CCA
Front brakes:	ABS, dual four-piston calipers, floating 300mm rotors
Rear brake:	ABS, two-piston caliper, floating 300mm rotor
Front forks:	Telescopic, 46mm diameter, 4.7" (119mm) travel
Rear suspension:	Single with air adjust, 4.5" (114mm) travel
Front wheel:	Cast with tire pressure monitoring; 3.50-16"
Rear wheel:	Cast with tire pressure monitoring; 5.00-16"
Audio:	200-watt stereo with AM/FM/WB, Bluetooth and smartphone compatible; accessory input
Colors:	Thunder Black, Blue Diamond, Springfield Blue and Ivory Cream, Indian Motorcycle Red and Ivory Cream, Storm Gray and Thunder Black
MSRP:	**$27,999-$29,399**

BAGGER



CHIEFTAIN •

Length:	101.2" (2571mm)
Seat height:	26" (660mm)
Ground clearance:	5.6" (142mm)
Rake:	25 degrees
Trail:	5.9" (150mm)
Wheelbase:	65.7" (1668mm)
Dry weight:	815 pounds (370kg)
GVWR:	1,385 pounds (630kg)
Engine:	Air/oil-cooled, 49-degree Thunder Stroke 111 V-twin (111"/1811cc)
Peak torque:	119.2 ft-lbs. at 3000 rpm
Bore:	3.976" (101mm)
Stroke:	4.449" (113mm)
Clutch:	Wet, multiplate
Compression:	9.5:1
Fuel system:	Electronic fuel injection, closed loop, 54mm bore
Exhaust system:	Split dual with crossover
Transmission:	Six-speed constant mesh
Primary drive:	Gear with wet clutch
Final drive:	Belt, 152 tooth
Front tire:	Dunlop Elite 3 130/90B-16" 73H
Rear tire:	Dunlop Elite 3 180/60R-16" 80H
Fuel capacity:	5.5 gallons (20.8L)
Oil capacity:	5.5 quarts (5.20L)
Charging system:	42 amp max output
Battery:	12 volts/18 amp hours, 310 CCA
Front brakes:	ABS, dual four-piston calipers, floating 300mm rotors
Rear brake:	ABS, two-piston caliper, floating 300mm rotor
Front forks:	Telescopic, 46mm diameter, 4.7" (119mm) travel
Rear suspension:	Single with air adjust, 4.5" (114mm) travel
Front wheel:	Cast with tire pressure monitoring; 3.50-16"
Rear wheel:	Cast with tire pressure monitoring; 5.00-16"
Audio:	100-watt stereo with AM/FM/WB, Bluetooth and smartphone compatible; accessory input
Colors:	Thunder Black, Indian Motorcycle Red, Silver Smoke, Star Silver and Thunder Black
MSRP:	**$22,999-$24,199**



CHIEF VINTAGE •

Length:	103.7" (2634mm)
Seat height:	26" (660mm)
Ground clearance:	5.5" (140mm)
Rake:	29 degrees
Trail:	6.1" (155mm)
Wheelbase:	68.1" (1730mm)
Dry weight:	801 pounds (364kg)
GVWR:	1,260 pounds (573kg)
Engine:	Air/oil-cooled, 49-degree Thunder Stroke 111 V-twin (111"/1811cc)
Peak torque:	119.2 ft-lbs. at 3000 rpm
Bore:	3.976" (101mm)
Stroke:	4.449" (113mm)
Clutch:	Wet, multiplate
Compression:	9.5:1
Fuel system:	Electronic fuel injection, closed loop, 54mm bore
Exhaust system:	Split dual with crossover
Transmission:	Six-speed constant mesh
Primary drive:	Gear with wet clutch
Final drive:	Belt, 152 tooth
Front tire:	Dunlop American Elite 130/90B-16" 67H
Rear tire:	Dunlop American Elite 180/65B-16" 81H
Fuel capacity:	5.5 gallons (20.8L)
Oil capacity:	5.5 quarts (5.20L)
Charging system:	42 amp max output
Battery:	12 volts/18 amp hours, 310 CCA
Front brakes:	ABS, dual four-piston calipers, floating 300mm rotors
Rear brake:	ABS, two-piston caliper, floating 300mm rotor
Front forks:	Telescopic, 46mm diameter, 4.7" (119mm) travel
Rear suspension:	Single adjustable, 3.7" (94mm) travel
Front wheel:	Spoke; 3.50-16"
Rear wheel:	Spoke; 5.00-16"
Colors:	Thunder Black, Indian Motorcycle Red, Star Silver and Thunder Black, Willow Green and Ivory Cream
MSRP:	**$20,999-$21,999**

CRUISER



CHIEF CLASSIC •

Length:	103.8" (2630mm)
Seat height:	26" (660mm)
Ground clearance:	5.5" (140mm)
Rake:	29 degrees
Trail:	6.1" (155mm)
Wheelbase:	68.1" (1730mm)
Dry weight:	751 pounds (341kg)
GVWR:	1,260 pounds (573kg)
Engine:	Air/oil-cooled, 49-degree Thunder Stroke 111 V-twin (111"/1811cc)
Peak torque:	119.2 ft-lbs. at 3000 rpm
Bore:	3.976" (101mm)
Stroke:	4.449" (113mm)
Clutch:	Wet, multiplate
Compression:	9.5:1
Fuel system:	Electronic fuel injection, closed loop, 54mm bore
Exhaust system:	Split dual with crossover
Transmission:	Six-speed constant mesh
Primary drive:	Gear with wet clutch
Final drive:	Belt, 152 tooth
Front tire:	Dunlop American Elite 130/90B-16" 73H
Rear tire:	Dunlop American Elite 180/65B-16" 81H
Fuel capacity:	5.5 gallons (20.8L)
Oil capacity:	5.5 quarts (5.20L)
Charging system:	42 amp max output
Battery:	12 volts/18 amp hours, 310 CCA
Front brakes:	ABS, dual four-piston calipers, floating 300mm rotors
Rear brake:	ABS, two-piston caliper, floating 300mm rotor
Front forks:	Telescopic, 46mm diameter, 4.7" (119mm) travel
Rear suspension:	Single adjustable, 3.7" (94mm) travel
Front wheel:	Black, cast; 3.50-16"
Rear wheel:	Black, cast; 5.00-16"
Color:	Pearl White
MSRP:	**$17,999**



CHIEF DARK HORSE •

Length:	103.5" (2630mm)
Seat height:	26" (660mm)
Ground clearance:	5.5" (140mm)
Rake:	29 degrees
Trail:	6.1" (155mm)
Wheelbase:	68.1" (1730mm)
Dry weight:	751 pounds (341kg)
GVWR:	1,260 pounds (573kg)
Engine:	Air/oil-cooled, 49-degree Thunder Stroke 111 V-twin (111"/1811cc)
Peak torque:	119.2 ft-lbs. at 3000 rpm
Bore:	3.976" (101mm)
Stroke:	4.449" (113mm)
Clutch:	Wet, multiplate
Compression:	9.5:1
Fuel system:	Electronic fuel injection, closed loop, 54mm bore
Exhaust system:	Split dual with crossover
Transmission:	Six-speed constant mesh
Primary drive:	Gear with wet clutch
Final drive:	Belt, 152 tooth
Front tire:	Dunlop American Elite 130/90B-16" 73H
Rear tire:	Dunlop American Elite 180/65B-16" 81H
Fuel capacity:	5.5 gallons (20.8L)
Oil capacity:	5.5 quarts (5.20L)
Charging system:	42 amp max output
Battery:	12 volts/18 amp hours, 310 CCA
Front brakes:	ABS, dual four-piston calipers, floating 300mm rotors
Rear brake:	ABS, two-piston caliper, floating 300mm rotor
Front forks:	Telescopic, 46mm diameter, 4.7" (119mm) travel
Rear suspension:	Single adjustable, 3.7" (94mm) travel
Front wheel:	Cast; 3.50-16"
Rear wheel:	Cast; 5.00-16"
Color:	Thunder Black Smoke
MSRP:	**$16,999**

SCOUT



SCOUT •

Length:	91" (2311mm)
Seat height:	26.5" (673mm), laden
Ground clearance:	5.3" (135mm)
Rake:	29 degrees
Trail:	4.7" (119.9mm)
Wheelbase:	61.5" (1562mm)
Dry weight:	538 pounds (244kg)
GVWR:	988 pounds (449kg)
Engine:	Liquid-cooled 60-degree V-twin (69"/1133cc) dual overhead camshafts (DOHC) with four valves per cylinder and semidry sump
Horsepower:	100 at 8100 rpm
Peak torque:	72.2 ft-lbs. at 5900 rpm
Bore:	3.898" (99mm)
Stroke:	2.898" (73.6mm)
Clutch:	Wet, multiplate
Compression:	10.7:1
Fuel system:	Electronic fuel injection, closed loop, 60mm bore throttle bodies
Exhaust system:	Split dual with crossover, O_2 sensors, one each bank, and mufflers with single, three-way catalyst
Transmission:	Six-speed sliding-mesh
Primary drive:	Gear with wet clutch
Final drive:	Belt, 141 tooth
Front tire:	130/90-16" 72H
Rear tire:	150/80-16" 71H
Fuel capacity:	3.3 gallons (12.5L)
Oil capacity:	5.0 quarts (4.73L)
Charging system:	35 amp max output
Battery:	12 volts/12 amp hours, 210 CCA, maintenance-free AGM
Front brake:	Two-piston caliper, 298mm rotor
Rear brake:	One-piston caliper, 298mm rotor
ABS option:	Indian Motorcycle Red only
Front forks:	Telescopic, 41mm diameter, 4.7" (120mm) travel
Rear suspension:	Dual, 3" (76mm) travel
Front wheel:	Cast; 3.50-16"
Rear wheel:	Cast; 3.50-16"
Colors:	Thunder Black, Wildfire Red, Thunder Black Smoke, Silver Smoke, Indian Motorcycle Red (with ABS)
MSRP:	**$10,999-$11,999**

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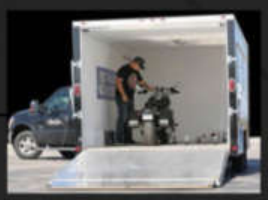
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21 And Legal



AS A CUSTOM BIKE BUILDER, Paul Yaffe through his company Paul Yaffe Originals (PYO) has tackled bobbers, Pro-Streets, choppers, stock Softails, and everything in between. Most recently, he's had success with baggers, which led to the formation of Paul Yaffe's Bagger Nation. A short while ago though,

Paul Yaffe gives a Sporty the big-wheel treatment



text by
eric ellis

photos by
john covington

Hot XL



Paul figured it was time to shift gears, to add another platform as a springboard for a new line of custom parts.

His choice of bike just happened to be part of Harley's longest-running family, the Sportster. Harley's Sportster line has a storied past, rich in history, but many enthusiasts look upon it as a beginner's bike. Those are misconceptions, says Paul, and he set out to prove that with this bike.

THE BIKE'S GENESIS CAN BE TRACED TO A CONVERSATION that Paul had with his friend Jack Stubbs who helps his father, Buddy, run Buddy Stubbs Harley-Davidson. They were discussing Paul's ideas for customizing and creating a new line of parts for Sportsters when Paul got the notion to customize an Iron 883. Paul especially had his eye on the Iron's narrow profile and minimalist appearance, and he determined it to be a great candidate for an old-school boardtracker-style custom. His vision included mounting a matching set of tall and skinny wheels and tires to the diminutive Sportster. Jack liked the idea, too, and knew that with Paul at the helm, the bike would turn out awesome. So Jack offered Paul one of his floor models for use as a prototype.

A few weeks later, a bone-stock 2014 Iron 833, resplendent with Black Denim paint, rolled into the PYO shop. It was time to start the little Sporty's transformation into a big superstar. Believe it or not, in his 30 years of tricking out Harleys and building one-off custom bikes, this was Paul's first time messing with an 883. Since the bike was to be a prototype project for new parts, they retained the Sporty's nimble lines and simply performed a few key styling mods. Following the less-is-more theory of building, the simple modifications drastically changed the bike's stance and overall appearance, making it look



more like a modern boardtracker than the base-model street bike that Harley-Davidson intended it to be.

There are plenty of options when it comes to big wheels, but Paul elected to use a pair of Ridewright 21" lace spoke wheels shod with Metzeler's 140/70-21" tires. Naturally, some modifications to the bike were necessary to get the stance, handling, and clearances to fall in line with the taller wheels. Up front, a set of 5-degree raked trees were machined to fit and then mounted to the neck.

The Yaffe team choked up on the fork legs a bit, sliding them into the trees so the fork caps sit about an inch above the top clamp. This helps set the bike level without having to mess with the fork's internals. They also machined a new axle to accommodate the Ridewright hubs and Sporty fork sliders.

There was no chance of fitting the rear 21" wheel into the stock swingarm without having clearance issues at the back portion of the frame. The swingarm was therefore removed and cut to weld in 2" of square tubing to lengthen the bike's wheelbase. The Yaffe team was able to use the original rear shocks by mounting them at the stock angle to ensure predictable handling and proper suspension travel. One thing that couldn't be reused due to the lengthened swingarm was the final drive belt. The solution was simple: order a custom belt that's sized to fit.

Paul determined almost right away that the Sportster's slim, iconic gas tank fit the bike's theme, so the peanut tank was left in place. Even though PYO has an assortment of fender styles in its parts line, none of those fancy tire covers are quite right for this bike. So PYO fabricated a pair of matching fenders that, like a second skin, tightly wrap around the bike's 21" tires — seriously, with the Black Denim paint applied, the fenders practically blend right in with the Metzelers. For additional rigidity, PYO fabricated a pair of sleek and short fender struts that also assume a stealth posture in the bike's design.

Once the fenders were mounted, custom seat

maker Guy Thieman went about crafting a low-profile, diamond-stitched seat to blend with the bike's contours perfectly. The unique saddle gives the bike's rider an "in-the-bike" feel behind the stock handlebar. After the seat was completed, the fenders were handed off to Rolling Art Custom Paint to be color-matched in Black Denim to the gas tank.

Since the Sportster belonged to Buddy Stubbs H-D in the first place, it was going to go back onto the showroom floor, so all parties agreed to leave the zero-mile engine and drivetrain intact. However, Paul and his PYO posse dressed it up just a little bit, which explains the Roland Sands Design Tracker 2-into-1 exhaust system and H-D High-Flow air filter kit.

After six months of prototyping, working, and reworking components to complete the project, Paul and his guys had a pretty mean-looking, big-wheel machine that shows strong hints of the old boardtrackers from the past. The guys at the Buddy Stubbs dealership were so pleased with the bike that they promptly ordered another. As for Paul, he now has added more to his long list of parts to sell, and anyone who wants to recreate this bike or roll big wheels onto his Sporty can do so with PYO's help. Yep, those big wheels keep on turnin'. **AIM**



TECH SHEET

Owner:	Jack Stubbs, Buddy Stubbs Harley-Davidson, Phoenix, AZ
Builder:	Paul Yaffe Originals, Phoenix, AZ
Year/model:	2014 Harley-Davidson Iron 883
Time to build:	Six months
Painter:	Rolling Art Custom Paint, Tempe, AZ
Color:	Black Denim

POWERPLANT

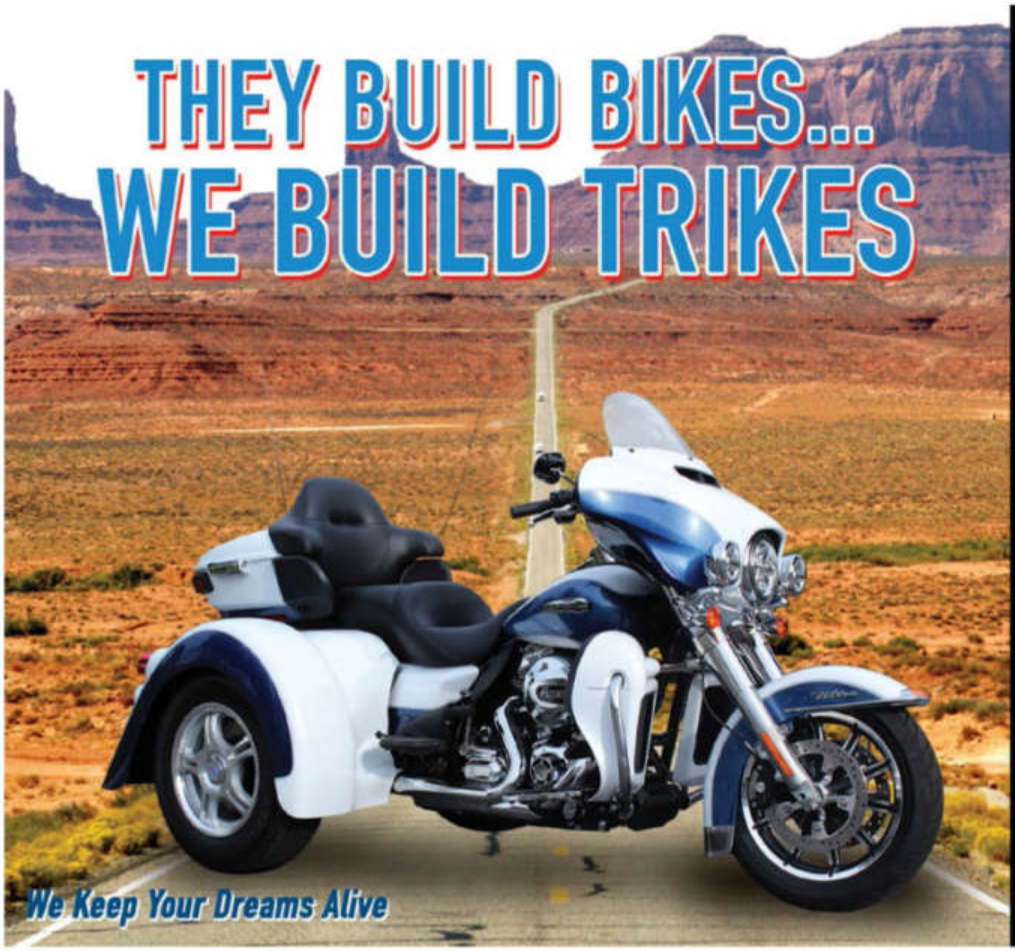
Engine:	2014 Harley-Davidson Evolution
Builder:	Harley-Davidson
Displacement:	883cc
Cases:	Stock
Flywheels:	Stock
Balancing:	Stock
Connecting rods:	Stock
Cylinders:	Stock
Pistons:	Stock
Heads:	Stock
Cams:	Stock
Carb:	Stock
Air cleaner:	Stock
Exhaust:	Roland Sands Design Tracker 2-into-1
Ignition:	Stock
Charging system:	Stock
Transmission:	Stock
Case:	Stock
Gears:	Stock
Clutch:	Stock
Primary drive:	Stock
Final drive:	Belt, modified by Paul Yaffe Originals

CHASSIS

Frame:	2014 Harley-Davidson Sportster
Rake:	5 degrees
Front forks:	Paul Yaffe Originals/Harley-Davidson
Mods:	Raked trees
Swingarm:	Paul Yaffe Originals/Harley-Davidson, 2" stretch
Shocks:	Stock
Front wheel:	Ridewright 21"
Rear wheel:	Ridewright 21"
Front brake:	Stock
Rear brake:	Stock
Front tire:	Metzeler 140/70-21"
Rear tire:	Metzeler 140/70-21"
Front fender:	Paul Yaffe Originals
Rear fender:	Paul Yaffe Originals
Fender struts:	Paul Yaffe Originals

ACCESSORIES

Headlight:	Stock
Taillight:	Roland Sands Design
Fuel tank:	Stock
Oil tank:	Stock
Handlebars:	Stock
Seat:	Guy Thieman, Guy's Upholstery, Mesa, AZ
Pegs:	Stock
Belt guard:	Paul Yaffe Originals
Speedo:	Stock
License bracket:	Roland Sands Design
Mirrors:	Stock
Hand controls:	Stock
Foot controls:	Stock



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THE SHOP CLOSER

Troy's all-matched-up Shovel catches our attention at the 2015 Patriot Ride

"IT WAS QUITE AN EVENT. BUZZ KANTER WAS STANDING there with my bike, and we started talking about it. He asked if it had been in any magazines yet. And I said, 'No, not yet.' And he said, 'Well, have you ever heard of American Iron?' And I said, 'Oh, yes, of course I have.' He then looked at my bike again and said, 'I would really like to shoot some pictures, if you wouldn't mind.'"

The above remark is Troy Haugen's word-for-word account of what happened when he met *American Iron Magazine*'s Editor-in-Chief Buzz Kanter at the 2015 Dennis Kirk Patriot Ride and how his 1980 Fat Bob came to be in this particular issue. It's pretty surreal, especially from the point of view of someone who's been reading *AIM* for years. It's not every day that you go to a motorcycle event and not only catch the attention of a motojournalist, but get offered by such a guy to photograph your bike for publication. And as it turns out, this was just the icing on the cake, the last of many amazing occurrences for Troy and his Shovelhead. But more on that later. You can read about the 2015 Patriot Ride on page 64.

The guy who made the bike pop is Dewey, owner of Dewey's Custom Cycles in Buffalo, North Dakota. Troy and Dewey go way back, and when I say "way," I mean *way* with quite a few a's like at least 25 years. Troy and his Shovel also go way back. But Troy didn't ask Dewey for quite some time



to customize his bike during the 20-plus years he's owned it. It wasn't until about three years ago that he decided to customize it. The way Dewey recalled that day three years ago should give you a pretty good idea of how much work had to go into it: "I took one look at it and said, 'When do you want this done by?' He said, 'Well, I'd like to have it as soon as possible.' Well, I said, 'You need to buy another motorcycle because I'm busy, and this thing is going to take awhile.'" So Troy bought a 2007 Street Glide from Dewey. Good thing, too, because that Shovelhead resided in Dewey's shop for three years. And when Dewey could finally clear his schedule for his buddy, another six months of hard labor lapsed before he finished the job.



The parts that Troy had in mind foreshadowed the amount of time and money that Dewey would have to put into the Shovel. "We picked out some Performance Machine [PM] wheels that he wanted," says Dewey. "'Well, you know,' I told Troy, 'once you start putting stuff like that on there, everything that goes on next to it has to look nice, too.'" But there's more to this than just having the bike look nice all around, something which ended up becoming the theme of the build. "You have to make it look like it all belongs together, because I see a lot of stuff where it's like why the hell is there this skull thing there and there's no skull anywhere else?" Of course, Troy was okay with that.

Now, we all know where Troy is coming from. You want your bike to look good. However, as Dewey told me, the Shovelhead is Troy's first Harley, so it comes with some serious sentimental value. What's more, it's Troy's baby in more ways than one. "Troy's been busting his ass being a farmer for quite a few years," comments Dewey. "And he doesn't have kids, so he's in the position where he has the money to do this."

Once the bike was on Dewey's lift, he began the disassembly. As Dewey recalls, the Shovelhead had some mods done to it before he put his hands in it, but they were "mediocre aftermarket-quality stuff," and some of the chrome was peeling off, too. So Dewey made a pile of everything they weren't going to use and a pile of everything they were going to keep. "And the pile for the parts we weren't using kept on getting bigger and bigger and bigger and bigger, and pretty soon I basically had the frame sitting on two wooden blocks with the engine cases, rocker boxes, and Crane HI-4 ignition. The S&S carb was so gummed up that I had to completely rebuild it and polish that." He pauses. "That was all I had when I started."

I basically had the frame sitting on two wooden blocks with the engine cases, rocker boxes, and Crane HI-4 ignition.

Since the motor's heads were "basically baked," Dewey installed new S&S heads and cylinders and then stroked the powerplant with a S&S 84" kit and 450 cams. Most of the engine, however, had to be done beyond



Got a bike you think belongs here? Well, send it to ReadersRide@AmericanIronMag.com or Reader's Ride, c/o *American Iron Magazine*, 1010 Summer Street., Stamford, CT 06905. Be sure to send a few digital images showing both sides of the bike shot the same way we do a bike feature, as well as some shots of you with the bike. We'll also need full contact info for you, including a daytime phone number. Sorry, images will not be returned.



Dewey's doors, seeing as the motor needed to be welded in a few places. For that, Dewey sent it to Advance Cycle and Machine in Superior, Wisconsin. Then he shipped out the cases to be polished and the rocker boxes to get chromed at Smothers Metal Finishing in Millstadt, Illinois.

But the powertrain was just the tip of the iceberg. "I got real anal on this one," Dewey remarks. "I told Troy that I can't do another one like this again. It's too nerve wracking." Since Dewey's shop is a one-man facility in a town with a population of 180, he doesn't have the workers or the resources he did during his days as a dealership service manager. "Basically for something like this, you have to shut your shop down."

Dewey soon began piecing it together, part by part. "The gas tank is supposed to look like it came off a 2006 Softail, so I bought a Russ Wernimont Designs model; the front fender is Russ, too." Since Troy wanted everything looking smooth, Dewey installed a Deuce-style front end from Drag Specialties. For the battery box, Dewey welded a tab in the back and mounted it "the way a Softail would have it. It now looks like it belongs on there." There it is again. And since Troy liked his bike to have a 3" belt drive (they picked a polished primary drive from BDL) with electric start, Dewey decided to also install a BAKER six-speed. But, of course, the trans caused some clearance issues with the pipes. An exhaust system from Cycle Shack, however, solved that problem.

Dewey continues: "It's just a lot of hours just nosing around parts books." Speaking of which, a lot of the parts on the Shovel are from the PM catalog, including the rotors, rear sprocket, forward and hand controls, and wheels, noted above. There are also Flanders apes, Sumax rear fender, parts from Colony and V-Twin Manufacturing, and so much more. There was also some thumbing through Corbin's offerings; Dewey chose a Corbin seat that required some modification up front to fit snug against the gas tank. "And I went through pages and pages of stuff out of the Drag Specialties book," he says, including its FatBook and OldBook flipbooks. "We didn't just put a bunch of dotty stuff on it. Everything is just smooth and clean and polished." And to break it all up a little bit, they had Mike Wanner of Fargo-Moorhead Custom & Collision in Fargo, North Dakota, apply the Candy Blue paint job you see here.

"I told Troy that I can't do another one like this again. It's too nerve wracking."

Turns out, Troy is on the same page with Dewey, especially when describing his bike. "It turned out well," says Troy. "All the parts and pieces match and flow throughout the machine." And other people agreed, too. In fact, before catching Buzz's attention at the Patriot Ride, Troy entered his Shovelhead at the Dennis Kirk Donnie Smith Bike Show (#326) earlier this year where he won first place in the Shovelhead Full Custom category. While that's all pretty nifty, Troy later received an e-mail from the show, inviting him to attend the riding bike show at the Patriot Ride. "I was just kinda overwhelmed. It just worked out perfect for me."

As for Dewey, he's going on some much-needed R&R&R — rest and relaxation and riding. He's riding out to Elkhart Lake, Wisconsin, Davenport, Iowa, and through the Black Hills in South Dakota and the surrounding area. Heck, he deserves it. **AIM**





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FAT BOY UPGRADES

Installing a H-D Layback license plate mount, Slanted LED taillight, and Badlander seat

With our long-term test Fat Boy sounding and performing better, it's time to turn our attention to the visual component; this isn't an easy task to accomplish on one of the best-looking bikes in H-D's lineup since 1990. But there are a few easy P&A upgrades from The Motor Company that can improve the bike's looks, comfort, and safety. We've had some great luck with stuff from the P&A catalog. Everything's designed by the same people who design the original parts, making fitment and functionality a given. And there's no guessing if things are going to work together or not.

Starting in the rear, the first order of business is discarding that unsightly stock license plate bracket that sticks up off the wide, flowing fender. In its place is going a Framed Layback License Plate Mounting Kit (#60193-07/$69.95). The mirror-finish, chrome plate mount wraps the license plate on all four sides, concealing the stamped edges of the flimsy plate. The full-size backing plate hides the ugly backside of the plate and allows for completely hidden plate-mounting hardware. This kit, as its name suggests, also angles the plate backwards to hug the fender closer. The stock three mounting holes are reused, so no drilling that pretty fender and no leftover holes!

To continue the smooth-flowing additions to the Fat Boy's rear end, we're also adding a Layback LED taillight (#67800355/$159.95). The plastic lens has a nice rake to it, further slimming down the fender protrusions. It has a

1 Our 2015 Fat Boy is up on a bike lift and ready to receive its new H-D Layback license plate mount, Slanted LED taillight, and Badlander seat.



TOOLS NEEDED

- Isopropyl alcohol
- Black marker
- Ruler
- 3/16" Allen
- #2 Phillips screwdriver
- #3 Phillips screwdriver
- Straight-bladed screwdriver (large)
- 7/16" wrench
- 7/16" socket ■



2 Start by removing the license plate's top nut and two side bolts using a 7/16" socket and 7/16" wrench. Then set the license plate aside for now.

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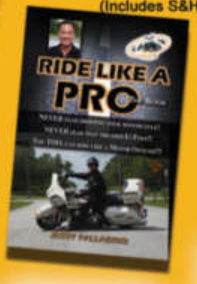
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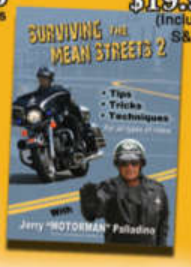


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3 Remove the three bolts and nuts holding the stock plate holder to the fender using a #3 Phillips screwdriver and 7/16" socket. Then remove the holder, which will not be reused, from the fender.



4 Using a #2 Philips screwdriver, remove the two screws that hold the stock taillight to its base and then pull the light from the bike. Save the screws.



5 After depressing the tab at the bottom of the connecter, pull the connector from the taillight base.



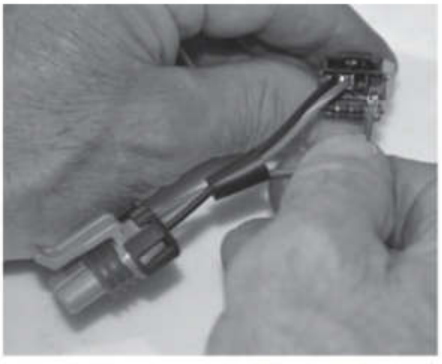
6 Take the Layback plate holder apart by pulling the bottom away from the top half and then out. Then position the kit's rubber base on the bottom half, noting that there's a top side.



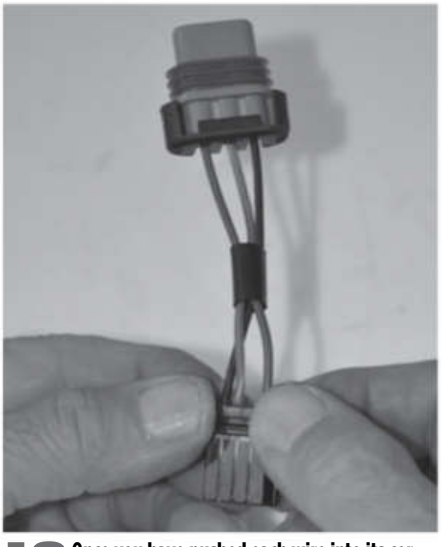
7 Install the new plate holder using a 3/16" Allen, a 7/16" wrench, and the kit's three 1/2" bolts and locknuts. Make the plate holder level with the bike before tightening the hardware.



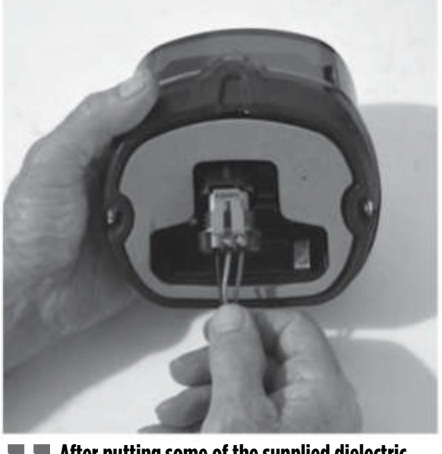
8 Position the plate on the holder and then engage the top tabs of the plate holder bottom half with the slots on the plate holder top half. Secure the top using the supplied Allen wrench and two screws.



9 Properly orientate the wires of the kit's new jumper harness in the kit's new connector (slots and crimp tails face tab), so they're in the same numbered slots as they are in the stock connector.



10 Once you have pushed each wire into its correct slot until it clicks into place, and tugged on it to make sure the wire is locked in place, closed the connector's lid, which is the secondary lock.



11 After putting some of the supplied dielectric grease into the new taillight's connector socket and the socket used for the stock taillight harness on the base, plug the new jumper harness into the new taillight.

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12 Then plug the kit's new connector into the socket in the taillight base that's below where the stock harness went. Make sure it clicks into place.



13 After ensuring its gasket is properly seated, secure the new taillight to its base using a #2 Phillips screwdriver. Then clean the area under the taillight with a solution of 50 percent isopropyl alcohol.



14 To install the supplied reflector on our Softail, measure down from the center of the bottom of the taillight lens 1-3/4" and make a small line with a black marker.



15 After following the instructions regarding properly centering and leveling the reflector, remove the liner from its adhesive backing and secure the reflector to the fender.



16 Here's how the finished taillight, plate holder, and reflector look! After testing that the taillight works as it should, it's time for the seat.



17 Remove the stock seat by using a large straight-bladed screwdriver on the rear mounting bolt. Then pull the front of the seat out from its mounting tab and slide the seat out of its grab strap.



18 Unscrew the two stock nuts and remove the stock grab strap. Then reinstall the stock nuts without the grab strap.



19 Use a 7/16" socket to remove this stock bolt and washer. Using a 7/16" socket and the new bolt and flat washer supplied with the seat, secure the new grab strap to this location as per the seat's instructions.



20 Install the new seat by slipping the rear of the seat through the strap and then engaging the front tab in its hole in the frame. Then secure the seat's tail using a large straight-bladed screwdriver and the stock bolt.

full grid of LED lights that are way brighter than the stock incandescent bulb and faster reacting, too. In these days of distracted drivers, it's more important than ever to be armed with the best visibility available.

Our last bit of contouring for the Fat Boy is a new Badlander seat (#51397-06A/$279.95). This two-up seat has a smooth profile that nicely hugs the Softail's frame. Besides looking good and being comfortable, the Badlander also offers a reduced seat height, perfect for Editor Chris! With a 14"-wide rider's portion, the seat still provides plenty of cushion, and the 6-1/2" passenger pillion is perfect for around-town cruises.

All three installs are relatively straightforward and shouldn't take more than an afternoon to complete. However, there are a few quirks that we ran into, so take a look at Tips & Tricks for some important info not included in the instruction sheet. As always, the entire step-by-step project with photos will guide you through the install.

continued on page 116



21 Here's how the new seat looks on the bike!

SOURCES

THE HARLEY-DAVIDSON MOTOR COMPANY
Harley-Davidson.com







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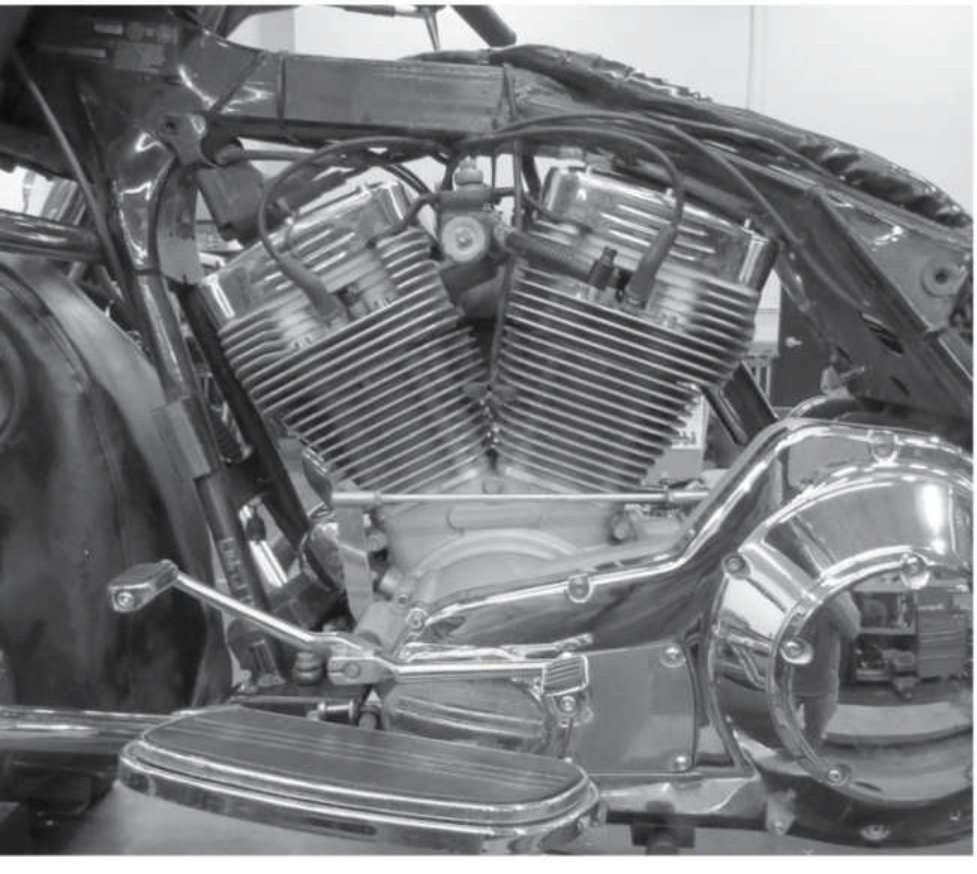
HEAT ON HARLEYS ISN'T A NEW PROBLEM, BUT it only seems to be getting worse as displacements increase, and US Environmental Protection Agency (EPA) requirements keep the air/fuel mixtures very lean. This is especially a problem for worked motors, like the one in our 2005 Electra Glide. It has a Screamin' Eagle (SE) 95" kit, 10.6:1 pistons, SE 251 cams, and a performance air cleaner and exhaust system installed. We definitely need to get this thing to run cooler without sacrificing the bike's smooth look. JIMS provides a great new answer for hot Harleys with its ForceFlow cylinder head cooler in black (#5401/$437).

The ForceFlow mounts on the left side of the engine in place of the stock horn, which is replaced by the horn that comes inside the ForceFlow. The cooling part of the ForceFlow system works by using a fan that was originally designed to cool the brakes on NASCAR racecars. This fan blows air at the cylinder heads, forcing cool air around the fins and hot air out the right side of the engine and away from the motorcycle. The fan can be controlled with a thermostat or wired with an on/off switch. The ForceFlow is also available in polished and silver finishes, all of which provide a modern look to the otherwise bare left side of your engine.

We didn't just install the ForceFlow.

TOOLS NEEDED

- Blue Loctite
- Electric tape
- Heat gun
- Wire cutters
- Hose clamp tool
- Flat-bladed screwdriver
- 7/16" wrench
- 1/2" wrench
- 7/16" socket (deep)
- 1/2" socket (deep)
- 9/16" socket (deep)
- Torque wrench (ft-lbs.) ■



1 Here's our worked 2005 Electra Glide up on Chris' lift with its seat and gas tank removed. The battery's ground cable has also been disconnected.



2 Chris first removes the front rocker box's left rear bolt. Our rocker boxes are custom, but the stock bolt needs a 7/16" socket or wrench.

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3 Chris then slips a section of heat shrink over the JIMS thermostat to protect its wires and uses a heat gun to shrink it. Don't test the thermostat with the heat gun, you'll ruin it.



6 The JIMS-supplied spacer goes on next, under the thermostat's mount. We had to use a longer one than what was supplied for our custom rocker boxes.



9 A deep 1/2" socket is needed for the center case bolt, which will not be reused.



4 Chris uses wire cutters to cut three of the harness wire-ties. On 2008 and later Touring models, you have to cut a notch on the left side of the bike's plastic wiring harness trough.



7 Chris now secures the JIMS thermostat assembly to the front rocker box using a 1/2" wrench. Note how the thermostat is positioned.



10 After putting some blue Loctite on its threads, Chris installs the JIMS-supplied stud in the center case bolt location using a flat-bladed screwdriver. He tightens it until it is snug.



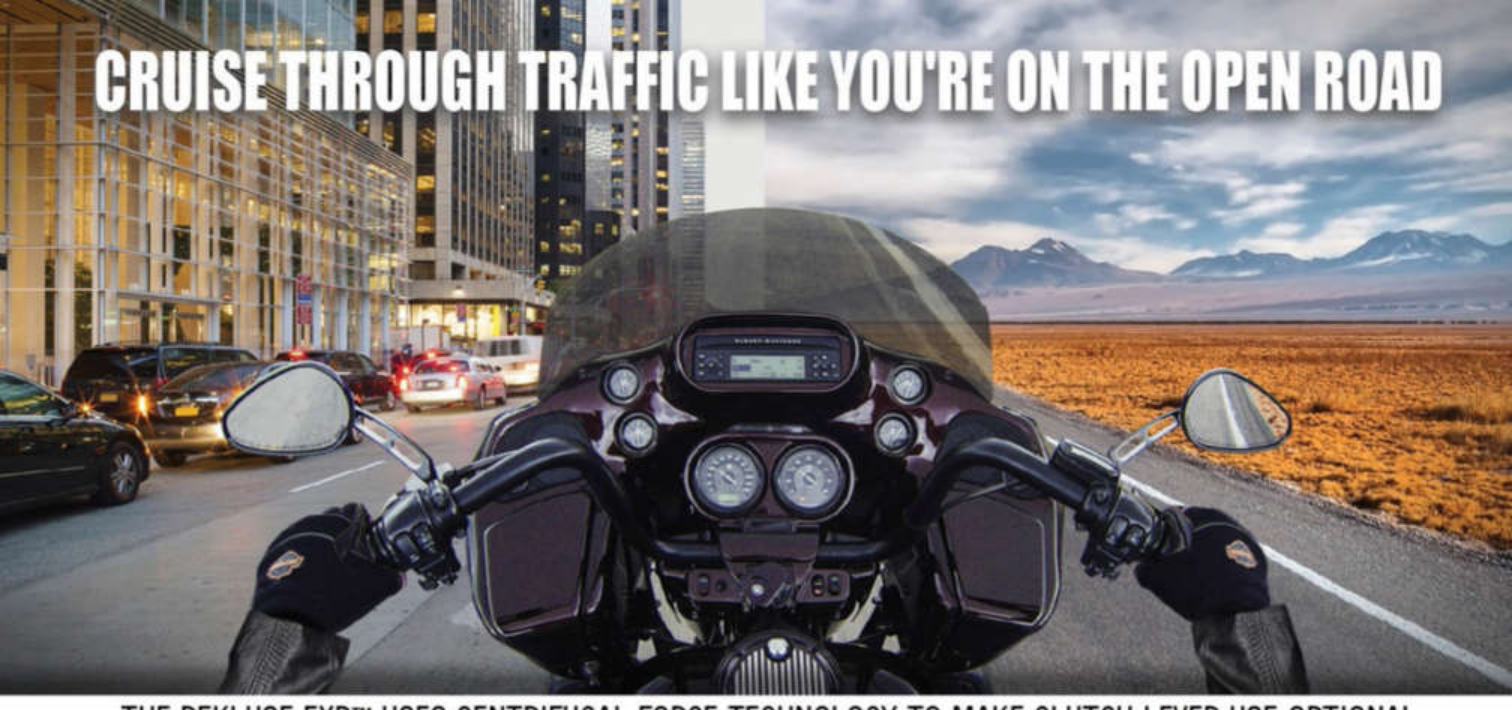
5 After he puts some blue Loctite on its threads, Chris slips the JIMS-supplied bolt with flat washer through the thermostat's mount.



8 On our bike, Chris has to remove the shifter rod to get to the center left crankcase bolt. He uses a 1/2" wrench and a 7/16" wrench.



11 With some blue Loctite on the stud's threads, Chris slips the JIMS-supplied flat washer and nut onto the stud and tightens the nut to 15-19 ft-lbs. using a 1/2" deep socket.



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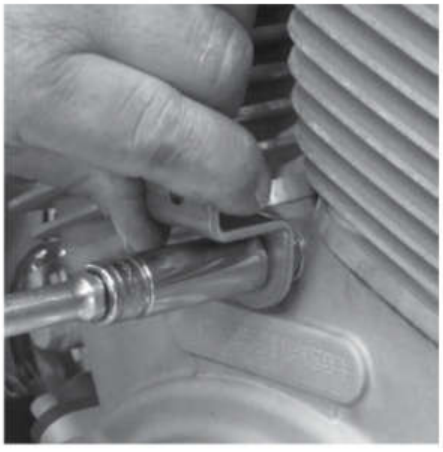
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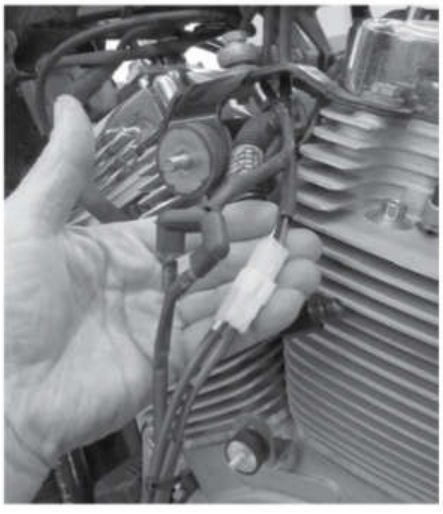
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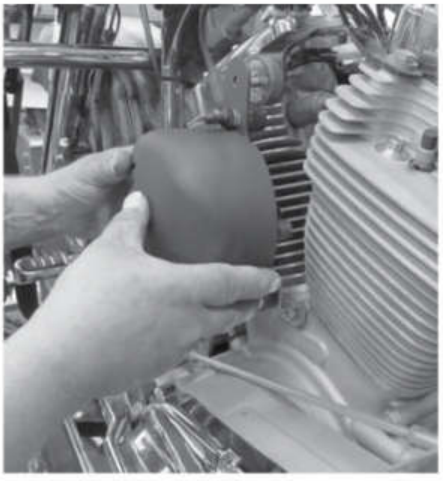
12 With another JIMS nut and flat washer on the stud, followed by the JIMS lower bracket, Chris slips on another JIMS flat washer and nut. He snugs the nut for now using a deep 1/2" socket.



13 Chris then secures the JIMS-supplied rubber isolator to the JIMS lower support bracket using a JIMS-supplied flat washer and nut. He uses a 7/16" wrench to just snug the nut for now.



14 Chris attaches the two stock horn connectors to the light blue spade connectors from the JIMS fan housing. He also attaches the fan's white connector to the connector on the JIMS harness.



15 Chris now positions the JIMS fan housing on both rubber isolators, the JIMS lower one and stock horn's upper one.



16 After wrapping the two horn connecters with some electric tape, Chris secures the fan and horn wiring harnesses away from any hot engine parts and to the top engine mount using wire-ties.



17 Chris now secures the JIMS fan/horn assembly's top support to the rubber mount using a deep 9/16" socket, some blue Loctite, and the stock hardware. He torques the nut to 7-9 ft-lbs.



18 Chris secures the JIMS fan/horn assembly's bottom support to the rubber mount using a deep 7/16" socket, some blue Loctite, and a JIMS flat washer and nut.



19 Chris tightens the JIMS fan/horn assembly's bottom support bracket using a deep 7/16" socket.



20 After checking that there's at least 1/4" clearance between the fan blades and cylinder fins, Chris reconnects the shifter rod using a 1/2" wrench and a 7/16" wrench.



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21 Chris can now route the JIMS ForceFlow fan main harness along the frame's backbone to the battery compartment. He secures it to the frame using new harness wire-ties (#10073).



22 Chris now reinstalls the stock gas tank. He secures the front of the tank using the stock hardware, blue Loctite, and a deep 1/2" socket. He torques the bolts to 15-20 ft-lbs.



23 Chris secures the rear of the tank using the stock hardware, blue Loctite, and a deep 1/2" socket. He torques the bolt to 15-20 ft-lbs. He also reconnects the tank's overflow hose.



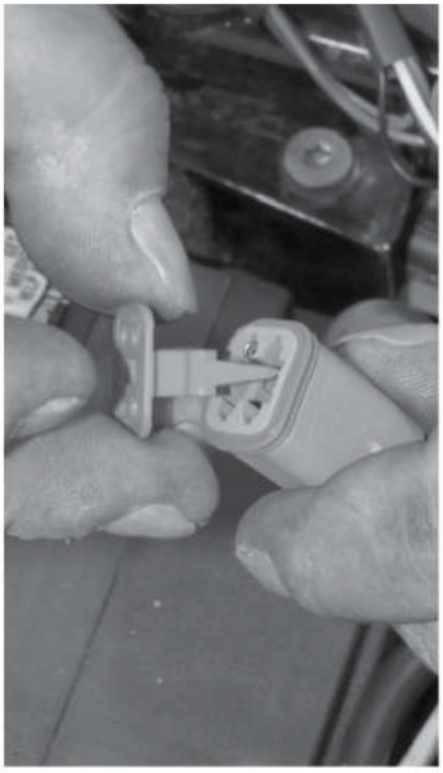
24 Chris reconnects the fuel line by pushing up on the collar on the tank valve and carefully slipping the line up into the fitting. After he releases the collar, Chris checks that the line is secure.



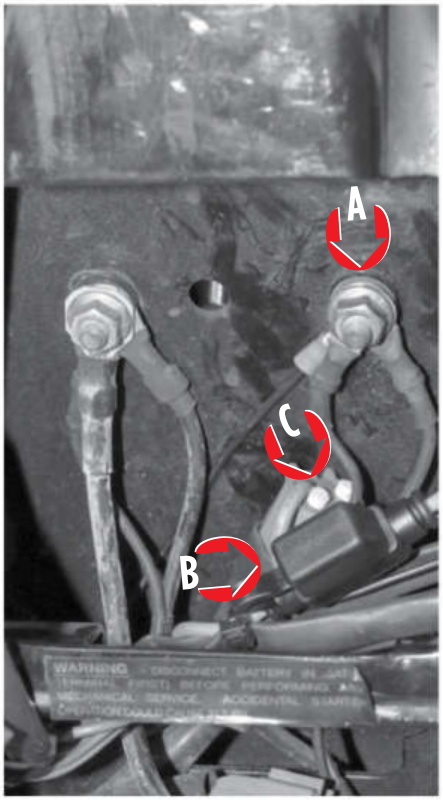
25 He then reconnects the crossover line and secures it using new clamps and a hose clamp tool. On our model and year bike, we access power via the accessory plug in the battery compartment.



26 Chris inserts the socket terminal on the JIMS harness into the JIMS-supplied Deutsch connector at Position 4, which is the correct one for our installation.



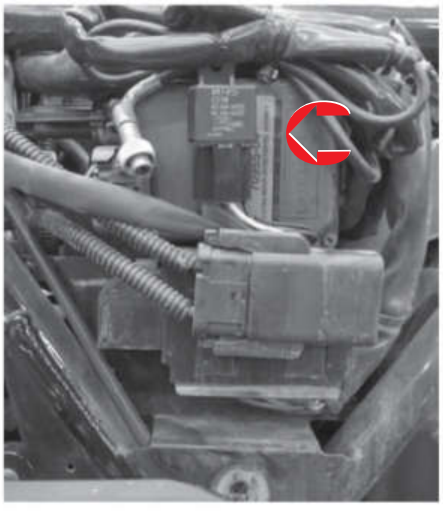
27 He then installs the Deutsch connector's wedgelock, which secures the wire in the connector. Chris then connects the Deutsch connector to the bike's accessory plug.



28 Chris secures the JIMS harness ground wire to a stock ground point under the seat (A) and installs the JIMS fuse (B). The Deutsch connector is also located here (C).

We also ran it through a series of tests to determine its true value (see page 111). Check out the test results sidebar for the full story of the ForceFlow's real-world performance. Tech Chris Cowden at Bayside Harley-Davidson in Portsmouth, Virginia, takes us step by step through this install, and he used the dealership's equipment for the test.

continued on page 111



29 Chris then mounts the JIMS fan relay (arrow) under the left side cover.



30 Here's how the finished install looks!

SOURCES

BAYSIDE HARLEY-DAVIDSON
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BaysideHD.com

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BIKER'S CHOICE REBUILD

Part III: Rebuilding the rear wheel

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AS PART OF OUR ONGOING EVOLUTION-powered 1998 Road King rebuild project, we're rebuilding the wheels so the bike can roll down the highway efficiently and safely. For this entire series, we're using only parts that can be found in the Biker's Choice (BC) catalog, to make one-stop ordering easy.

To rebuild the hub of the rear wheel we ordered a Biker's Choice wheel bearing and seal kit (#410409/$19.45). The BC kits include the correct type and number of bearings and seals required to service one wheel. It's important to check your bearings with every other tire change and replace or repack them as necessary. We happen to be changing a tire as part of this wheel rebuild, and we opted for the classically styled Dunlop American Elite wide whitewall MT90B-16" (#310492/$270.95). Entirely American-made, the Dunlop provides even tread wear and quiet operation in wet and dry conditions. That modern tread design with the wide whitewall just looks so damn good! As part of the tire install we also got a new valve stem from Biker's Choice.

A rebuilt pair of wheels can make an incredible difference in the performance and ride quality of an older bike. Less friction allows for better power transfer to the ground and a set of new tires can not only vastly improve the look, but make the whole bike feel brand new. Like all the projects on our '98 Road King, Chuck from Chuck's V-Twin in Port St. Lucie, Florida, is turning wrenches for us. He's one of the top independent shops in Florida, and has years of experience doing this kind of work. Check out the photos and captions below to see one of the best and cost-effective ways to get that old Evo running smoothly again.

TOOLS NEEDED

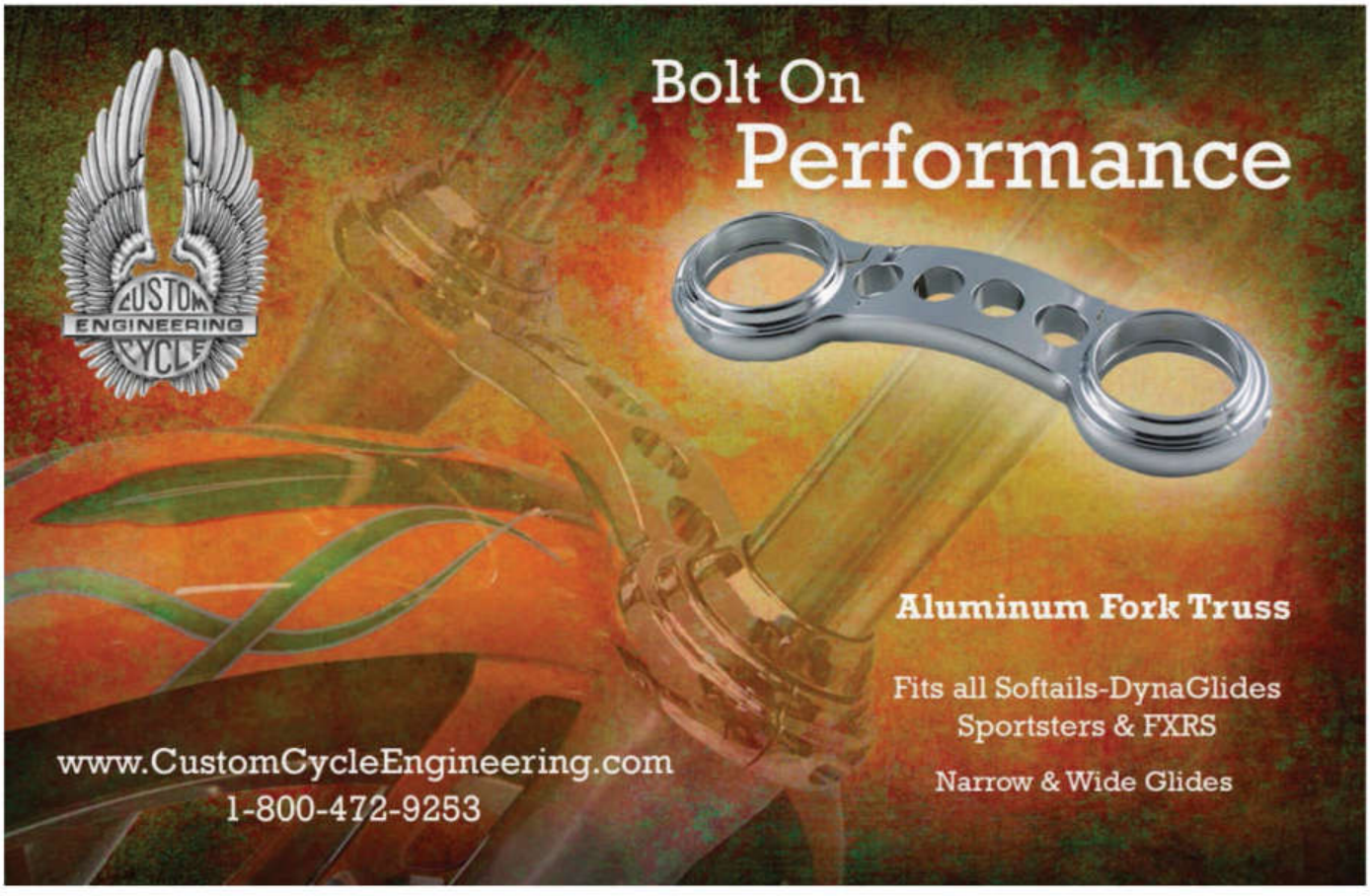
- Blue Loctite
- Waterproof bearing grease
- T-45 Torx
- 5/8" socket
- Blunt wire cutter
- Hammer
- Bearing packer
- Dial indicator
- Seal driver
- Inner race removal driver
- Inner race installation tool
- Torque wrench (ft-lbs.) ■



1 Here's our stripped down rear wheel. The inner lip where the bead goes has been wire-wheeled clean. The bearings and spacer have been removed, cleaned, and inspected.



2 Using an inner race driver and hammer, Chuck removes the old races from the wheel hub. He then cleans all the old grease from the hub and inspects it.


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3 Using an inner race installation tool, Chuck pulls one of the new Biker's Choice races into the hub, tapered side facing out, until it hits the lip inside the hub.



4 To check the endplay of the bearings to the inner spacer, Chuck first slips a 1"-long spacer, a new Biker's Choice bearing, and the shims (beveled side to the bearing) and spacer that were originally in the hub, onto the stock axle.



5 He then uses various spacers to take up the gap between the other new Biker's Choice tapered wheel bearing and the stock axle nut, which Chuck torques to 60-65 ft-lbs.



6 Using a dial indicator, Chuck checks the endplay between the spacer and wheel bearings. He wants 0.002"-0.006". He gets 0.003" by taking out three of the stock shims and leaving in five.



7 Chuck now packs both new Biker's Choice tapered wheel bearings with fresh waterproof wheel bearing grease using a bearing packer and an arbor press.



8 Chuck can now reassemble the wheel hub, starting with the stock spacer tube.



9 He then puts the shims he needs onto the inner side of the bearing and coats them with some bearing grease.



10 After coating both new Biker's Choice races with grease, as well as the inside of the Biker's Choice seals, Chuck installs one of the bearings into the hub.



11 Chuck uses the proper size seal driver and a hammer to carefully drive a new Biker's Choice seal into the hub, solid side facing out. He then does the same for the other bearing and seal.

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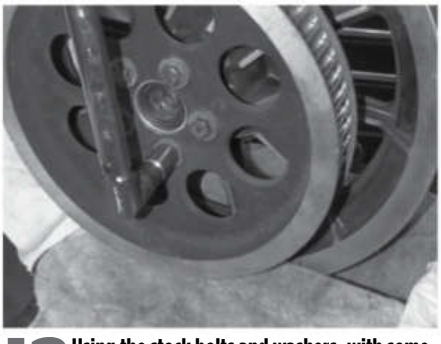
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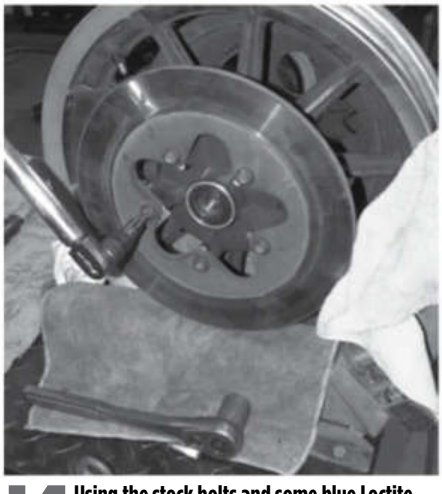




12 With some light lube on the new Biker's Choice rubber valve stem, Chuck pulls it into the rim using a blunt wire cutter on the metal part of the stem.



13 Using the stock bolts and washers, with some blue Loctite, Chuck reinstalls the stock pulley. He torques the bolts to 55-65 ft-lbs. using a 5/8" socket.



14 Using the stock bolts and some blue Loctite, Chuck reinstalls the stock rotor. He torques the bolts to 20 ft-lbs. using a T-45 Torx.

TIPS & TRICKS

TAP ON THE HEADS OF THE rotor bolts with a steel hammer to shock the bolts, so they're easier to remove. ■



15 Chuck then mounts the new Biker's Choice Dunlop American Elite whitewall MT90B-16" tire, noting the balance dot and rotation arrow, using his in-house tire machine.



16 Chuck finishes off the rear wheel rebuild by balancing it on his in-house wheel balancer. The wheel took 1 ounce of weight. AIM

SOURCES

BIKER'S CHOICE
BikersChoice.com

CHUCK'S V-TWIN
772/807-1810
ChucksVTwin.com





HIGH IDLES & NOISY LIFTERS

Q: I bought my 2007 FLHX new in December 2006. It now has 80,000 miles on it. At 75,000, I rebuilt the motor to 103" with a 10:1 compression ratio, 50mm throttle body, Power Commander III, and Dave Mackie 575 cams. The heads have been ported, flowed, and cc'ed. The heads also have larger intake valves and the valve springs needed to handle the cams. The engine also has a K&N air filter and Rinehart true duals exhaust with 3-1/2" mufflers. The engine was dyno'd, and puts out 105 hp and 115 ft-lbs. of torque.

Upon start up, the engine will go to a high idle of 1800 rpm for about five seconds and then drop to 1000 rpm. I've always let the motor warm up for at least three minutes before riding. After I take off, the motor returns to a high idle of 1600-1800 rpm until the bike comes to a complete stop and then the idle will drop to 1000 rpm again. After that, all is normal until the motor is shut off and then it will do the same thing after the next start-up. It's been this way since new, regardless of motor or performance add-ons. The guys at the dealership reflashed the module and said they found a loose ground wire, but this has never stopped the issue. Return visits only foster frustration. No codes have ever been thrown. It's a pain in the butt having to stop to drop the idle, especially when riding in a group because I usually lead. I've lived with this for too long. Help me, Obi-Wan!

POPS
Paso Robles, CA



Upon start-up, does your engine go to a high idle for a few seconds then drop back to normal? Does it do this only after the first start of the day? It may be a misadjusted or sticky throttle cable.

A: Always look at the simplest thing first. Are the throttle cables lubed and adjusted properly? I can't count how many times guys have come in with idle or performance problems due to a misadjusted or sticky throttle cable. The throttle cable should open the throttle plate fully, and the idle cable should allow the plate to close smoothly to the stop. Remove the air cleaner and make sure the throttle plate returns all the way to the stop. While you're checking the cables, look very closely at the throttle shaft. A cracked shaft will cause the idle to change because engine vacuum will move the throttle plate when closed and allow more or less air past it.

The idle air controller (IAC) controls the idle speed by allowing more or less air into the engine based on the set idle speed and input from the throttle position, engine temperature, and vehicle speed sensors, which are all managed by the ECM. Your dealer can see the IAC steps with his diagnostic computer. A low step count can indicate an air leak.

The high idle can also be caused by an out-of-position throttle stop. Again, you'll need the dealer's computer to read the voltage on the

To submit a question to our H-D-certified mechanic, who has been working in dealerships for over 20 years, send in as much info about the problem and bike as possible to Hog Helpline, c/o *American Iron Magazine*, 1010 Summer Street, Stamford, CT 06905, or e-mail ChrisM@AmericanIronMag.com. Sorry, but due to volume, we cannot respond to requests for personal replies or to all letters.

throttle position sensor at idle or fully-closed throttle position. It should not be greater than 0.61 volts. If it is, the stop screw may have turned and is holding the plate open. You can check this by locating the stop screw that contacts the crank where the cables connect on the throttle body. Try to turn the screw with needlenose pliers. If it moves easily, then it is probably misadjusted. You'll need to put some Loctite on the screw and then adjust it for a throttle position sensor (TPS) reading of 0.57 volts. Start the engine and let it warm up. When the engine is running at operating temperature, the IAC steps should read between 20 and 60 steps.

Another possible issue could be your vehicle speed sensor (VSS). Have you had any issues with your speedometer? A faulty VSS can give the ECM the wrong data, causing it to send the wrong information to the ISC. This results in the wrong idle speed as you slow to a stop.

Q: I have a 2006 Softail with a 103" H-D engine that was rebuilt and upgraded to 107" with Revolution cylinders, hydraulic cam tensioners, and a Screamin' Eagle high-volume oil pump. The engine now has around 22,000 miles on it, and the lifters are starting to tap after a high-way-speed short trip. They only rattle for a second or two then stop. I've checked the oil level; I've tried adding more oil and running less with the same results. I also checked the oil reservoir, and the oil is circulating when the motor runs.

I've changed the lifters' tappets, but the tapping hasn't stopped. I've changed the brand of oil, but there's still no change. It sounds like the oil doesn't catch up when I stop. I'm using a blue Bosch 3330 oil filter. Any suggestions?

RICHARD MCKAY
Via Internet

A: Have you looked at the condition of your spark plugs? Are they showing any signs of oil fouling? A leaky valve guide seal could, over time, cause carbon to build up in the guide to the point where the valve stem clearance goes away. If that happens, the valve sticks open a little so there's excessive clearance in the valvetrain that the tappet can't compensate for. There's your tap. When the engine is hot and going down the highway everything is fine. As you come down from those speeds, the changes in engine load and cylinder head temperature cause the carbon-fouled valve guide to tighten up just enough to hang the valve. The valve then cools off a little more and it frees up, and the tapping goes away. If you're doing frequent oil changes, you may not notice any oil consumption, and if it's minimal enough, you won't see any smoke. It should show up on the spark plugs as a crusty gray or black carbon buildup. You can also pull the exhaust pipes and induction module off to inspect the guides inside the ports. Look for oil and/or carbon buildup around the valve.

You should also verify your oil pressure with an accurate mechanical gauge attached where your oil sender is, but this doesn't sound like an oil pressure problem. AIM



W.R. CASE KNIVES

An open-and-shut case(s)

THIS STORY BEGINS WHEN I GOT INTO A KNIFE FIGHT, AND the knife won, slicing my left-hand middle finger's nerves and tendons. The steel-hardened lads here at American Iron central scowled "You shouldn't play with big knives!" And so, for my safety, they reassured me they'd get me a penknife.

But not just any penknife, one of the best on the market: a Case Pen (#25601/$72.50) pocketknife with two stainless steel blades and a bail for attaching to a key chain. Externally, the shiny knife sports a bone handle with an arrowhead-shaped Case logo. Really cool! And the 2-5/8" (when closed) knife easily fits inside my riding pants pocket. Not surprisingly, the small dual-blade knife has come in handy, including tasks like trimming electrical wire, scraping grease and oil from under my fingernails, or simply making small cuts (but not to my fingers).



The joke, it turns out, is on my *AIM* buddies because I got a pretty handy knife in the deal.

My *AIM* compadres know I like to tour on our test bikes, so they (jokingly, again) also included a Case Hobo (#00052/$101.99) knife. This is a pretty handy item; the 4 1/8"-long (closed) knife includes three stainless steel, foldable tools: a 3" blade, fork, and spoon. When you open the fork and spoon, the knife body disengages its locking mechanisms to release both items, providing me with a full cutlery set when I'm traveling so that, if I care to snack in my motel room, I always have eating utensils at the ready. Thus, the Hobo name.

And no fingers were harmed in the making of this product report. **AIM**

SOURCES

W.R. CASE & SONS CUTLERY CO.
800/523-6350
WRCase.com



continued from page 101

THE TEST RESULTS

SINCE OUR TEST BIKE HAS AN ACCESSORY switch on the triple trees, and we're hooked into the accessory connector for power, we left the power switch on the JIMS ForceFlow fan in the on position and controlled the ForceFlow using the accessory switch on the triple trees.

To test the JIMS ForceFlow fan we just installed, we started the bike outside in the sun. The outside temperature was 85F. The pavement under the bike was hotter, but we didn't have a means to measure how hot it was. Our guess was somewhere in the 90s. We hooked the bike up to the dealership's TechLink II system, which would give us readings from the EFI system's cylinder head temperature sensor in the front head.

The first test was to see when the fan would turn itself on. After a few minutes, the engine temperature reached 235F; the ForceFlow fan turned on via the thermostat we installed on the front head. The engine temperature then dropped to 226F and stabilized.

The second test was to see how hot the idling engine would get with the fan on. After 10 minutes, the idling engine got up to 257F. After 15 minutes, it went to 259F.

The third test was to see if the ForceFlow would cool an already overheated engine, so we turned the fan off and let the engine get up to 300F. We then turned the fan back on and monitored the engine temps. After 1 minute, the temperature dropped to 280F, a 20-degree drop. In 2-1/2 minutes, it dropped to 270, and after 4-1/2 minutes, the engine temperature had dropped back to where it had stabilized before, 258F.

We also tested the fan's power drain on the bike's charging system. When the fan was operating, there was no problem with overtaxing the properly operating charging system on our 10-year old bike. There was a 0.02 voltage drop on the system, with a 7-amp power draw. If you were stuck idling in traffic for 30 minutes or more, turning off all unnecessary lights, including the brake lights, would take care of the fan's power draw.

While the fan is operating on a hot engine, there's a blast of hot air that comes out of the right side of the engine about where the pushrods are on the front cylinder. Keeping your right leg on the ground, and not the floorboard, moves you out of its way. ■



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Target Acquired

Dynojet's new Target Tune can add a new dimension to your Harley-Davidson's ECM. When paired with a Target Tune specific calibration flashed by a Power Vision, your ECM will run closed-loop fuel control based on wideband O_2 sensors. The Power Vision's delivered calibration changes the coding in the ECM to understand the wideband signal (from Target Tune) and allows the ECM to accurately achieve the target air/fuel ratio. Dynojet has upgraded the OEM closed-loop, adaptive fuel control system on your Harley to meet the needs of performance enthusiasts. Info: Dynojet Research, 800/992-4993, Dynojet.com. **AIM**

All claims and specifications are those of the manufacturers. Submissions are welcome and should include a color digital (300 dpi jpeg) image, detailed description, and suggested retail price. Send submissions to Widgets, *American Iron Magazine*, 1010 Summer Street, Stamford, CT 06905, or Widgets@AmericanIronMag.com.



continued from page 36

factor in deciding to replace a stock exhaust system. Again, each rider may have a completely different idea of what sounds good. The EPA regulates limits of allowable "sound" for all motorcycle manufacturers, and the results of meeting these requirements are a very quiet exhaust on all stock Harley-Davidson and other brands of motorcycles. Many riders want a low, throaty sound or exhaust rumble while others want earsplitting, headache-inducing volume when the throttle is whacked open. The latter is causing problems for all motorcyclists.

For example, many of your riding buddies have modified their exhaust systems, but all are reasonable regarding exhaust volume and most are just a deep rumble as long as the throttle is not opened all the way. Your group goes out for a ride and stops at a small town for lunch. It's a historic town with many sidewalk restaurants. You pull up and park, and no one really pays too much

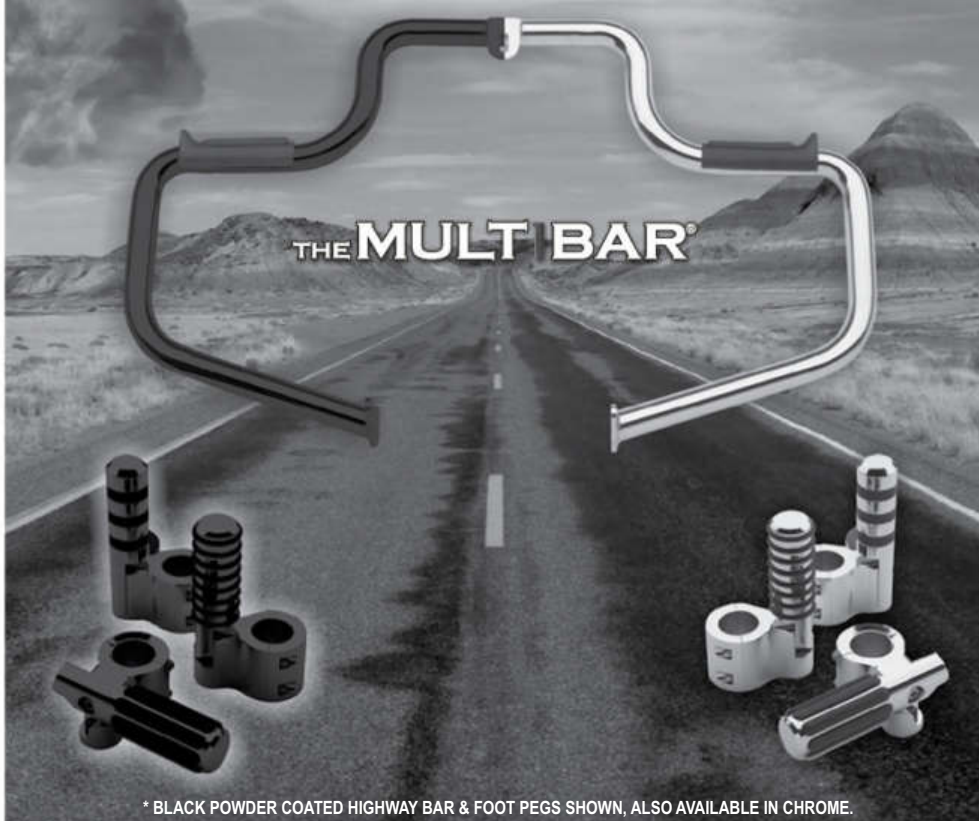
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attention to your group. You pick a place to eat, order lunch, and start to enjoy the good weather and good food. Another group of riders pulls up to the stoplight in front of the restaurant. One rider has straight pipes — no baffles and no muffler – and, of course, he can't stop whacking open his throttle. All conversation on the sidewalk stops, kids cover their ears, and no one looks happy. After the throttle whacker leaves, the other diners are now looking at anyone that rides a motorcycle as a nuisance.

When evaluating an exhaust purchase for sound, keep in mind that motorcyclists only make up about one percent of the driving public. All those owners of cars vote, and if even a small percentage of them get their collective backs up, they could — and have — legislated restrictions regarding when and where motorcycles can be ridden. In addition to pissed-off motorists, excessively loud exhausts draw unwanted attention from the police. If you have never owned a motorcycle with a loud exhaust system, and you install one, you may be in for an unpleasant surprise. It's one thing to take a short ride to the next bar with ear-piercing exhaust noise but quite another if you ride 50, 100, or more miles.

Conclusion

CHANGING OUT A STOCK EXHAUST SYSTEM is by far the most popular engine performance modification made by Harley-Davidson owners. Slip-on mufflers are the most economical exhaust mod and the easiest to make. In general, 2-into-1 systems offer the best overall performance. True duals are great for touring bikes that want lots of low-end grunt.

When planning an aftermarket exhaust system change, don't forget to take into account EFI fuel mapping or carburetor rejetting. If you're confident in your air/fuel ratio modification skills, you can do this part of the job yourself and without a dyno in most cases. If you're not an air/fuel ratio type of guy, have a professional do it for you. The bottom line is that any aftermarket exhaust system is less boring than what came from the factory. Exhaust mods are a fun project; just do a little homework before buying so you end up with what you really want. **AIM**







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continued from page 93

TIPS & TRICKS

WHEN SECURING THE TOP HALF OF THE LICENSE plate holder to its bottom half, you'll need to squeeze the two halves tightly together before sending each Allen stud into its hole in the bottom holder. Tighten the studs, which already have threadlocker on them, but don't kill them.

When installing the wires of the kit's new jumper harness in the kit's new connector, make sure they are in the same numbered slots as the same colored wires are in the stock connector. On our 2015 Fat Boy, the blue wire goes into slot 1, the black wire is in slot 4, and the red/orange wire goes into slot 3. Slot 2 is not used.

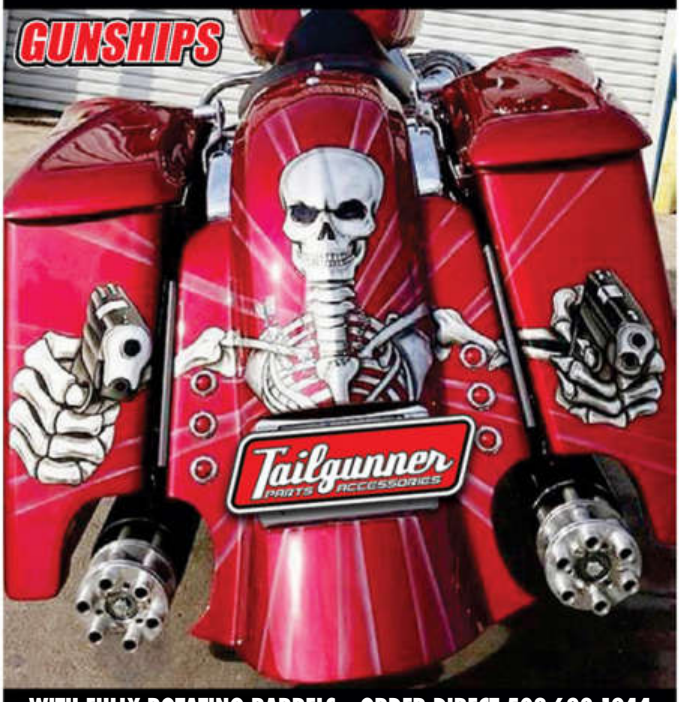
When installing the new Badlander seat, we had to pull the rear of the seat as far back as we could in the grab strap while pushing down on the front of the seat to get the seat's front mounting tab to drop down and go into its slot at the rear of the gas tank. We put a rag over the top of the rear fender and under the tail of the seat to keep the fender from getting scratched by the rear retaining bolt while doing this. ■ **AIM**





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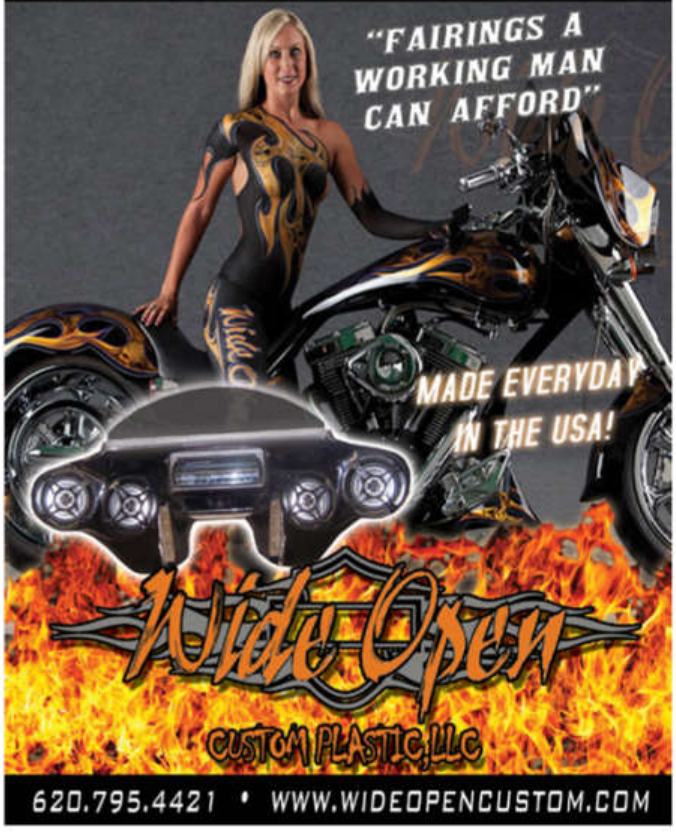
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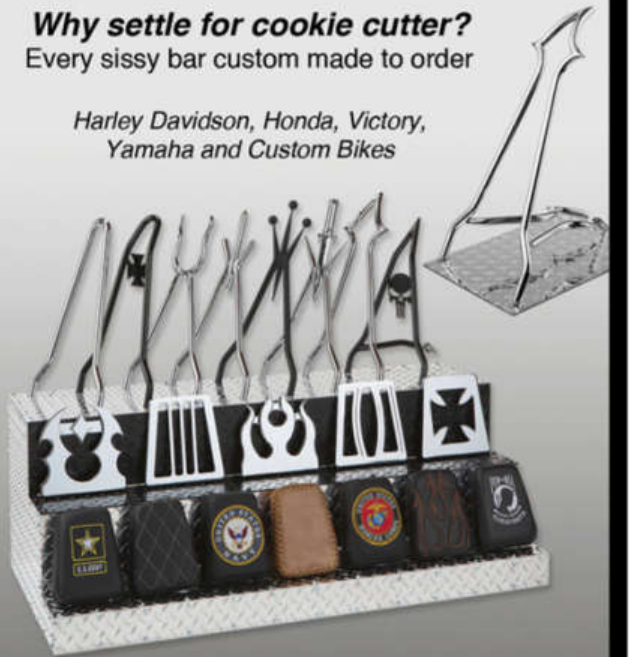
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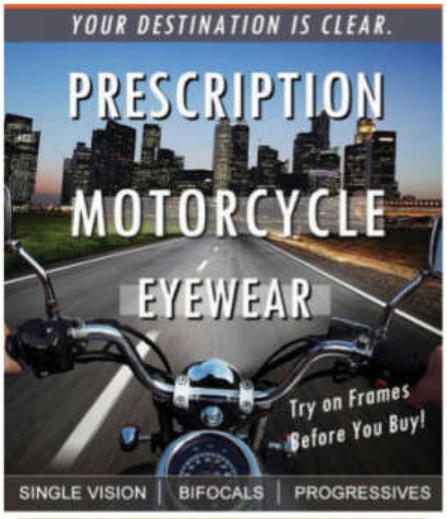
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Crank & Stroker Supply Co	951-296-2166	114
Custom Cycle Engineering	800-472-9253	56, 103
Daytona Beach Bike Week	Biketoberfest.org	25
Dead Center Cycles	866-971-3323	115
Dennis Kirk	800-564-1822	7
DFT	800-895-3711	16
Dirty Bird Concepts	623-465-5263	77, 99
Drag Specialties	Dragspecialties.com	C2
DNA Specialty Inc., West	888-755-4070	67
DynoJet Research Inc.	Flashyourharley.com	110-111
eGlideGoodies	eglidegoodies.com	119
Ernst Mfg.	503-668-5597	114
Exotic Choppers	407-253-1233	106
Faärken Biker Stirrups	508-210-2707	117
Frankenstein Trikes	913-352-6788	87
Freedom Performance	310-324-0415	41
Geico Direct	800-442-9253	55
Ginz Choppers	949-916-5926	117
Greaserag (House Ad)	GreaseRag.com	116
Hannigan Motorsports	270-753-4256	33
Harbor Freight Tools	HarborFreight.com	4-5
HardDrive Parts	HDTwin.com	21
Headwinds	626-359-8044	121
Heli Modified Corp	207-625-4642	99
HHI	877-442-5837	17
Hill Country Custom Cycles	877-755-4455	91
Horsepower Inc.	317-757-8668	112
Howard's Hog Horns	770-992-0034	105
Iron Braid	800-461-4766	101
J&P Cycles	855-515-7080	C4, 118
KlockWerks	Kustombaggers.com	103
Küryakyn	Kuryakyn.com	31
Law Offices of Richard M. Lester	800-531-2424	19
Leatherworks, The	209-983-9200	116
Lehman Trikes	888-3WHEELS	97
LePera Enterprises	818-767-5112	12
Lindby Custom Inc.	714-528-0085	113
Load All	877-241-4330	115
Marlin Corp.	248-683-1536	115
Metzeler Tires	Metzeler.com	116
Missing Link	888-489-9984	107
Mountain Master	623-451-7121	113
Mustang Seats	800-243-1392	73
Mystery Design Trikes	214-467-0991	109
NAMZ Custom Cycle Products	610-265-7100	121
National Motorcycle Museum	Nationalmcmuseum.org	116
Outrider Jewelry	800-895-1244	119
Performance Machine	714-523-3000	3
Powerlet Products	877-752-7835	95
Progressive Suspension	877-690-7411	53
Rampage Powerlift	925-405-0365	118
RC Components	800-360-0915	23
Rekluse	866-735-5873	97
Ride Like a Pro	866-868-7433	89
Rider Insurance	844-586-0045	83
Rinehart Racing	877-264-8282	9, 49, 105
Rivco Products	888-801-8222	91
Roadtrek Motorhomes	519-745-0711	93
Rob's Dyno Service	Robsdyno.com	118
Roland Sands Design	Rolandsands.com	35
Rosa's Motorcycle Shop	631-424-1235	120
Russ Brown	800-424-5377	27
Scott Jacobs Studios	Scottjacobsstudio.com	C3
Shinko Tires	Shinkotireusa.com	43
Solid State Covers	800-543-9304	118
South Point Hotel	866-791-7626	63
Sport RX	888-831-5817	114
Tailgunner Exhaust	508-693-1944	117
Thunder Cycle Design	954-763-2100	107
Tsukayu	Tsukayu.com	106
Twisted Trailz Excursions	602-795-8888	119
Vance & Hines	Vanceandhines.com	13
Wide Open Custom Plastic	620-795-4421	117
Widow Maker Industries	602-509-4776	115
Wiley X	WileyX.com	57
WindVest Motorcycle Products	877-370-7326	112
Wizards Products	800-356-7223	121
Xtreme Machine	XtremeMachineUSA.com	39
Yuasa Batteries	Yuasabatteries.com	37

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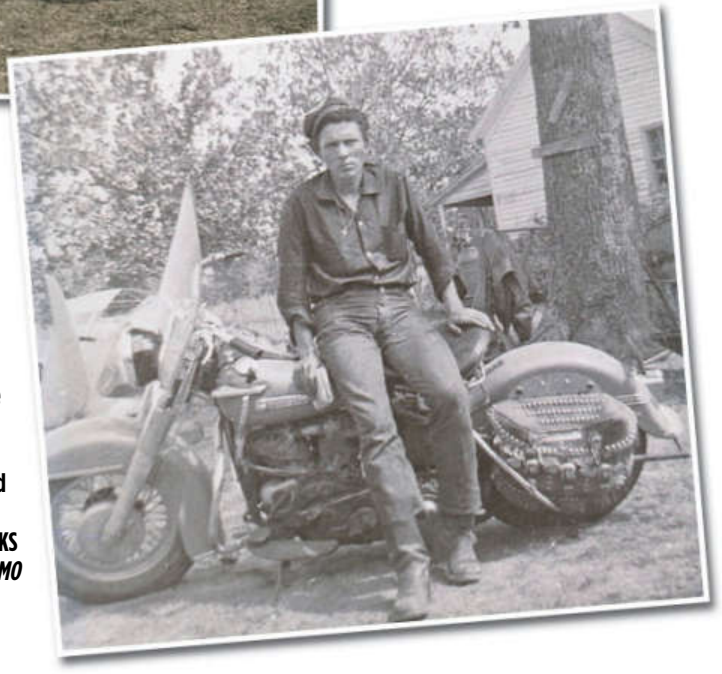
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Charles Morgan sent in this great photo of his father and mother, Arnold and Iris Morgan, taken somewhere in Texas in 1935. They're on Arnold's 1934 Harley-Davidson VL flathead. In the background is a 1932 Indian Four.

CHARLES MORGAN
Oxford, OH



Robert Brooks sent in this 1952-53 pic of his uncle David Brooks. Robert tells us that David, now deceased, bought the bike, which we think is a 1949-50 Panhead, in California and rode it back to his home in Missouri. Robert also writes, "Some folks might think the Marlon Brando character in the movie *The Wild One* was made up, but, as you know, some people lived the life for real."

ROBERT BROOKS
Warrensburg, MO

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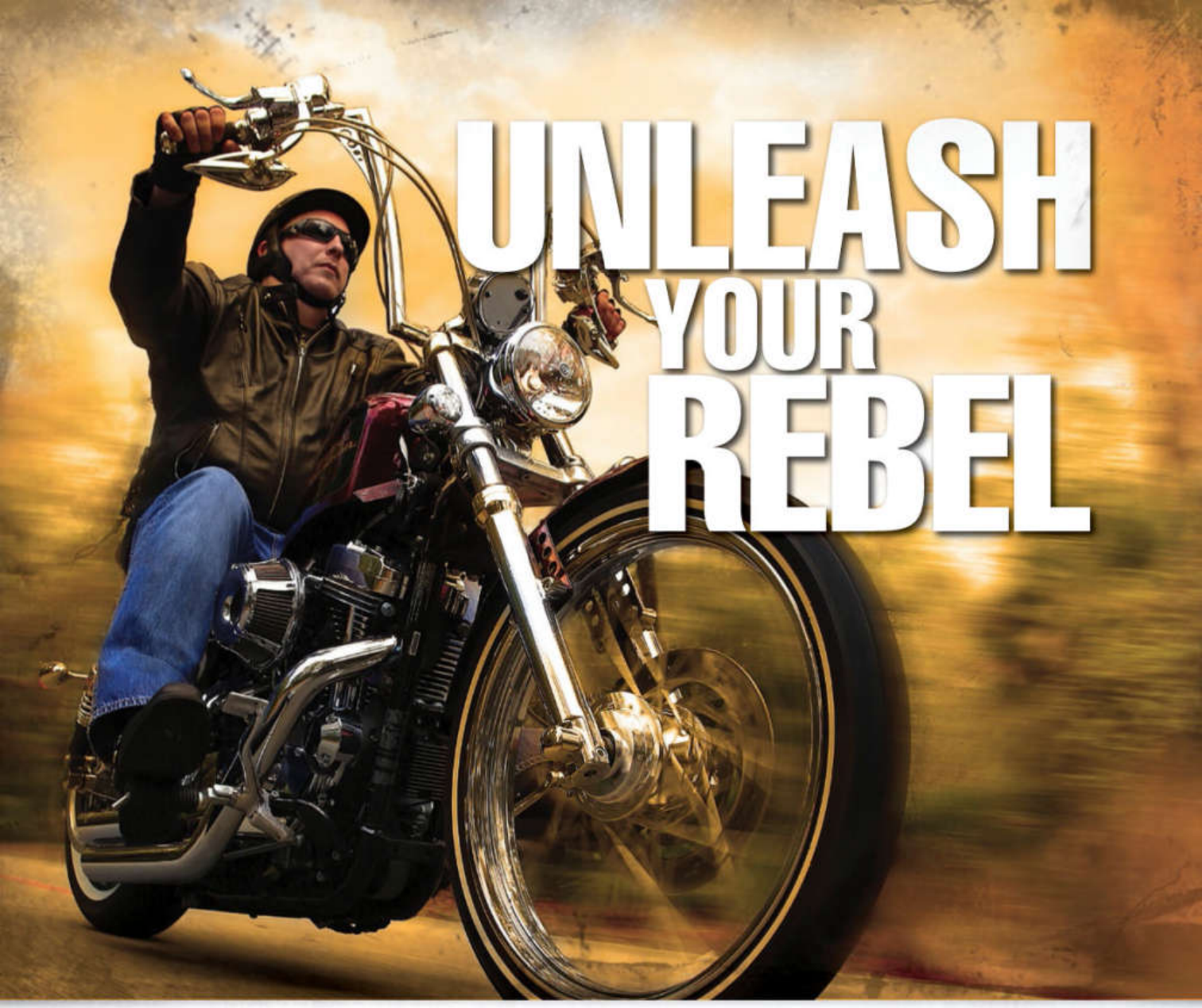
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